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**A study of the drivers influencing players of
Multiplayer Online Battle Arena (MOBA) games
to make micro-transactional purchases**

A thesis
submitted in partial fulfilment
of the requirements for the degree
of
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Abstract

This research project examines what motivates game players to purchase virtual items within the popular multiplayer online battle arena (MOBA) game, *League of Legends*. This MOBA is one of the most commercially successful free-to-play online games in recent years, however, the genre has received little attention in academic literature, and there is hardly any research on the game genre itself. Purchasing motivation for players of this game are obscure, as virtual items in online games typically have a functional, ‘in-game’ value, yet the most popular items within MOBA games do not have traditional functional values. This exploratory research aims to identify the drivers behind micro-transactional activity occurring in MOBA games, based on the attributes of the virtual items available for purchase, as well as examining the core motivators for MOBA game play.

This study was conducted within the Oceanic region using a mixed methods approach, utilising semi-structured interviews analysed via thematic analysis, with findings from the qualitative research phase informing the design of a quantitative online survey. Notable findings include the absence of traditional immersive motivators for MOBA players, and identification of a unique play motivation known as mood repair. Additionally, the construct of identity for MOBA players is found to be remarkably different to that found in previous studies on other online games such as *World of Warcraft*, with gender having no impact on players’ selection of a character. A model for further confirmatory research into the drivers behind the micro-transactional activity of MOBA game players is also developed and proposed.

Key Words: MOBA, motivation, online game, purchase intention, mood repair, microtransactions, virtual goods

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1. Introduction

This research project was conceived as a result of the researcher's personal interest in the online gaming industry, not only from the perspective of an enthusiastic, albeit closeted, gamer, but also from that of a business student with a Bachelors degree in Electronic Commerce. This background afforded an interest into the commercial online gaming industry, from the simultaneous perspectives of an online game user and a business student. It was observed that the popularity of research focussing on the behaviour of online gamers has been expedited by the rapidly growing online gaming industry. This industry is hard to ignore, due to the sale of virtual goods reaching USD\$15b in revenue in 2012 (SuperData Research, 2012). The global online gaming industry declared revenues of USD\$7.9 billion in 2000, skyrocketing to USD\$19.7 billion in 2009 (Statista, 2016), with actual revenue for 2014 reaching USD\$83.6 billion (Grubb, 2015). The MMO industry alone contributes over USD\$11 billion toward this figure (SuperData, 2015). This trend of continuous growth illustrates the industry's impressive resilience, with revenue generation and user activity increasing despite the global economic crisis in the mid-to-late 2000's (Allen, 2013).

Continual technological advancements are resulting in an improved variety of hardware, software, and gaming platforms, including further development of consoles and greater operating system compatibility. These advancements have been coupled with an influx of games which offer more interactive gameplay, better usability and mechanics, more complex game designs, and crisper graphics. This environment promises an ever-widening virtual world and a bright future for the industry.

With this outlook in mind, it is important to note that virtual worlds have become a daily part of many peoples' everyday lives across the globe. Numerous studies have looked at elements of what drives people to spend time in these virtual worlds. The perception of virtual worlds and value creation in these worlds has been a hot topic within the academic community since the introduction and subsequent adoption of online gaming throughout the late 90's and early 2000's. This is proven by a multitude of publications discussing virtual worlds and virtual value, including but not limited to studies by Castronova (2001), Lin and Sun (2007), Consalvo (2009), Lehdonvirta (2010), and Rizzolli (2012).

The gaming environment itself has grown and changed drastically since the early studies on virtual goods and value perception, which primarily focussed on PC-based massively multiplayer online role play games (MMORPG), as this genre most easily facilitated player-to-player real money trade (RMT) and boasted an enthusiastic subscriber base. Users were attracted by the fantasy themes, exploration, and exciting gameplay offered by the genre. Numerous studies have been conducted on MMORPG gamers and their motivations for various facets of behaviour and purchase intention. However, a new massively multiplayer online genre has evolved, designed to offer instant gratification whilst still demanding a high degree of skill. This genre has been described as a 'massively online battle arena' or MOBA game (Goldberg, 2011; Ryan, 2012).

A brief background of MOBA games is necessary to provide some insight into the genre's history. The game design was popularised initially by Valve's *Defense of the Ancients 2 (DOTA 2)*, and more recently by current industry-leader, Riot Games' *League of Legends*. In contrast to *World of Warcraft's* player numbers, which were last reported to be around 5.5 million (Statista, 2015), *DOTA 2* currently boasts at least double that, with roughly 12.5 million unique players logging in per month (*DOTA 2*, 2016). According to official statistics, in 2014 *League of Legends* claimed 70 million registered accounts, 67 million monthly players, and 12 million daily players who clock up over a billion hours of playtime on average per month (Riot

Games, 2014). Latest reports show that *League of Legends* boasts over 100 million players every month (Kollar, 2016). As such, *League of Legends* is the most played video game in the world. It is clear that MMORPG - such as *World of Warcraft* – are being partially superseded due to the rise in popularity experienced by MOBA games.

MOBA games are considered a sub-genre of MMORPG, with some aspects of the parent genre remaining intact. Practically, the characteristics of MOBA games include the player controlling a hero character, champion, or avatar, much like in MMORPG where “participants can interact with each other, as well as with computer-controlled creatures or non-player characters (NPC’s)” (Guo & Barnes, 2007, p. 70). The core of MOBA game design is focussed on player vs. player (PvP) team-based combat. There are traditionally two teams consisting of five players, resulting in 5v5 player battles. There is a traditional base destruction objective, where the goal is to get your team's heroes or champions past the other team's defence and destroy their structures, ultimately destroying their ‘castle’, ‘nexus’, or game-winning structure. In most MOBA you have ‘waves’ of AI controlled creatures, and AI controlled neutral monster spawns, also identified as NPC’s. The creatures offer a monetary incentive when killed by a hero, so it becomes necessary to secure the ‘last hit’ on a monster to collect gold and purchase better equipment or items (Ryan, 2012).

League of Legends’ public beta launched on October 27, 2009, developed by Tencent’s Riot Games, with influence from two original developers of the *DOTA: Allstars* mod, Guinsoo and Pendragon (Martin, 2015). Due to the continuity in developers, there are many similarities and overlaps in the design of *League of Legends* and *DOTA 2* MOBA’s. However, there are still marked differences in gameplay and mechanics, as well as some aspects of game design. Figure 1 provides an aerial view of the ‘Summoners Rift’ map, with bases, lanes, turrets, and rivers, including objectives such as Baron Nashor, the Dragon pit, and jungle camp areas.



Figure 1. Summoners Rift map (*League of Legends*, 2016)

This map illustrates the environment of standard *League of Legends* gameplay. Two teams play from their respective sides of the map, with five players per side. Each player selects a champion, or character with unique abilities and characteristics to play. *League of Legends* play styles are bound to a ‘meta’, or style that favours certain champions and their abilities. The meta consists of “common heuristics for deciding what type of champion should occupy each of the game's three lanes and jungle” (Ferrari, 2013, p. 7). The meta typically changes from season to season, depending on ‘buffs’ (improvements) and ‘nerfs’ (reductions in power) applied to certain champions. Players aim to select champions that best fit the meta, and attempt to gain the upper hand in the laning match-up.

The aim of the game is to destroy the defensive turrets of the enemy team and destroy ‘inhibitors’, which trigger the generation of ‘super minions’ from your base and

therefore make the defence of the enemy's base more difficult, and ultimately destroy the 'nexus' structure to win the game. This typically takes between twenty and forty minutes per game.

League of Legends is available for download anywhere in the world, with micro-transactional in-game purchases facilitating revenue generation. The *League of Legends* Store runs off a dual currency system, with in-game currency (*Influence Points*, or IP) and real money currency (*Riot Points*, or RP) as valid mediums of exchange. The Store offers users the ownership of champions, cosmetic skins for champions, IP and experience (XP) boost bundles to increase the amount of experience gained while playing, or increase the amount of in-game currency earned while playing, as well as runes which offer specific extra abilities and are assigned to a player's account. The most recent introduction is capacity to craft items such as ward skins, champion skins, and unlock champions through earning 'loot' such as chests and keys after good performances in the game. To preserve the game balance, Riot Games has ensured that items that are only purchasable with RP do not have any functional purpose in the game (e.g. cosmetic items such as skins) and therefore cannot skew games toward those who have invested in RP. This lack of functionality ensures all game play is fair and equal regardless of financial input.

With this understanding of the MOBA game design, it must be understood that academic study of MOBA games is virtually non-existent. There are certainly no motivation- or purchase intention-based studies to be found on this game genre. This research aims to examine the value and purchasing drivers behind MOBA game players' micro-transactional activity, from the perspective of their play motivations. Some exploratory research has been conducted on the value of virtual goods and microtransactions, providing a framework on which to ascertain specific motivational factors that drive real money trade and micro-transactions (Lehdonvirta, 2009), and others have focussed on breaking down the elements of value perception that are associated with buying and owning virtual goods (Guo & Barnes, 2015; Hamari, 2015). A key aspect of this study is discovering the motivation-based influences experienced by people who play MOBA games such as *League of Legends*. There are

a large number of motivational theories on which previous game motivation studies have been based, offering a sound theoretical basis on which to begin this journey.

The rest of the thesis is laid out systematically, with Chapter 2 offering an introduction to pertinent literature through an academic literature review. Following the conclusion of this, Chapter 3 presents the methodology, procedures, and findings of the qualitative research phase, with the resulting quantitative research design. This is followed by Chapter 4, which presents the methodology, procedures, and findings of the quantitative research phase. This chapter is followed by discussion of findings in Chapter 5, with a conclusion of the study and recommendations for further research in Chapter 6.

2. Literature Review

2.1 Introduction

This literature review begins with a brief overview of the current literature pertaining to the research field, the Multiplayer Online Battle Arena (MOBA) game genre. An explanation of literature limitations and justification of alternative sources is offered, with some insight into the data collection process behind this review. Following this, the first element of the research topic is discussed, which includes both motivational theories pertaining to play, and some detail into the theory of game play itself. This provides a solid foundation for discussion of online gamer motivation, which is based upon three core motivational factors. Secondly, an in-depth look into the realm of the virtual world follows, with an objective discussion of the definition of virtual worlds. Importantly, the definition and categorisation of virtual goods are outlined, with brief discussion of the actual and perceived value of virtual goods. Lastly, the purchasing drivers experienced by online gamers are reviewed, with exploration of why online gamers purchase virtual items in virtual worlds with ‘real’ currency. This chapter also includes discussion of relevant revenue models used by game providers, with brief analysis of several research frameworks and the impact microtransactions and real money trade (RMT) have on game design.

Before we delve into the intricacies of online game play motivation, it must be noted that a significant gap in the literature regarding studies of MOBA games exists. This is due to the relative youth of the genre, with commercial activity only becoming evident in 2009. However, the motivational and purchasing drivers of online gamers have been widely documented throughout popular Massively Multiplayer Online Role Play Games (MMORPG) and Massively Multiplayer Online (MMO) titles, most notably Blizzard Entertainment’s MMORPG, *World of Warcraft* (Ducheneaut, Yee, Nickell, & Moore, 2006; Guo & Barnes, 2007; Teng, 2010; Zackariasson, Wålin, &

Wilson, 2010; Constantiou, Legarth, & Olsen, 2011; Jung, Lee, Yoo, & Brynjolffson, 2011; Bowman, 2012; Blinka & Mikuška, 2014; Mäntymäki & Salo, 2014; Hamari, 2015; Nazir & Carrie, 2015; Paul, Bowman & Banks, 2015; Turkay & Adinolf, 2015). To date, only a small number of scholars have published MOBA-specific material.

One example is Ferrari (2013), with his exploratory study on *League of Legends* game play and design. Yilmaz (2016) completed a brief study of gamers purchasing virtual items and the correlation to their time spent playing *League of Legends*. Khan and Williams (2015) looked at transactive memory systems and the effects on team activity of *League of Legends* players, whilst Burroughs and Rama (2015) researched Twitch.tv and the positive impact that *League of Legends* has had on the platform. Further, Winn (2015) documented the dramatic dynamic of *League of Legends* and *Defence of the Ancients (DOTA 2)* professional play, with analysis of spectator motivation through avenues such as Twitch.tv. Several theses detail the impact of e-sports and *League of Legends* from a labour studies approach, utilising Marxist theory and introducing the concept of ‘digital labour’ (Agha, 2015), while Ridgeway (2014) adopted a sociological perspective and applying Marxist theory to the practise of streaming and professional e-sports. Hinnant’s thesis looks at *League of Legends* gameplay and e-sports from a Neoliberal perspective (2013). Both scholars critically observed this mode of revenue generation from a capitalist perspective. There are also several studies (e.g. Pobiedina, et. al., 2013) that exclusively feature *DOTA 2* game design and user play habits, and contribute to MOBA literature.

Aside from these studies, there is a significant knowledge gap that has made finding studies in the area of MOBA and *League of Legends* quite difficult. Thankfully, a sufficient amount of academic material and research has been published in the area of MMORPG games and MMO games, and although MMORPG are very different from MOBA games in structure, the MMO classification provides an umbrella genre that encompasses all multiplayer online games. A significant portion of the literature used in this review addresses MMO games, and frameworks and concepts are applied to the MOBA genre due to the ‘massively multiplayer online’ component that remains consistent throughout both game genres. While the game design of each genre is

significantly different, adopting motivational theory that has been applied to and developed via the study of MMO games will aid in uncovering the complexities of the MOBA genre. The same goes for identifying purchasing drivers that have become apparent through MMO research, and applying frameworks used in MMO literature to this study on MOBA games. Through this sound academic foundation, it is believed that identification of both the similarities and differences of the MOBA genre to previous genres can be achieved.

2.2 The Motivation for Play

The need for play is considered to be one of the primary human needs (Lehdonvirta, 2010), somewhere below logical thought, and somewhere above the need to eat or have sex (Castronova, 2004). If this need goes unfulfilled, the repercussions can be devastating (Lehdonvirta, 2010). Play is classified into two separate categories by Caillois (1957). The first is *paidia* – or ‘playing’ –, which “refers to a higher degree of freedom to choose and results in a large variety of voluntary actions”. The second is *ludus* – or ‘gaming’ – that “denotes a rule-based gaming process with well-defined sets of rules and regulations for objectives to be achieved” (Roth, Schneckenburg, & Tsai, 2015, p. 301).

As such, the motivational factors for MMO play fall under the category of *ludus*, as gamers are subject to rules, regulations, and processes as laid out by the developer. The very nature of online games means that escaping these rules and processes is not only difficult, but also virtually impossible. Thus, the extent to which gamers can make choices and act voluntarily is limited to the framework of the game. Some games are designed to allow a higher level of gamer control – i.e. ‘breaking the meta’ in MOBA games (Agha, 2015; Winn, 2015) – whilst others confine gamers to a specific ‘story’ where they must select only one of several options in order to progress to the next step in the game – i.e. choosing a guild when playing an MMO such as *The Elder Scrolls Online*.

2.3 Play Motivations in MMO Games

The study of MMO games from social science and motivational theory perspectives have become commonplace in recent years. Popular theories such as the technology acceptance model (TAM) (Bagozzi, Davis, & Warshaw, 1992), and the unified theory of acceptance and use of technology model (UTAUT) (Venkatesh, Morris, & Davis, 2003) have become well established within the academic community. The theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), and theory of planned behaviour (TPB) (Ajzen, 1991) have also been widely used to research gamer habits and motivations. These four core theories form the basis of most literature pertaining to online gaming motivation (Hamari, Keronen, & Alha, 2015).

Communications theories such as the uses and gratifications theory (U&G) have also been applied to online game players, with Wu, Wang, & Tsai (2010) hypothesising and finding a positive correlation between achievement, enjoyment, and social interaction, which are shown to positively affect the player's intention to continue playing the game. This concept of play continuance (Hamari, Keronen, & Alha, 2015; Hamari, et. al., 2016; Hamari et. al., 2017) is accepted as an important factor to consider when studying player motivation, as the loyalty of users is important for development and growth of virtual worlds, not only for users but also for providers. In MMORPG's such as *World of Warcraft*, player loyalty – also understood as play continuance – is shown to be positively influenced by: a) opportunities for avatar/character customisation; b) high levels of immersion (Teng, 2010); and, c) the ability to level up a character (Bilir, 2009). Turkay (2015, p. 9) explains that when users are “introduced to more choices in the form of customisation as they progress in the game”, players' intention for play continuance may increase. Immersion is also shown to positively influence players' decisions to purchase in-game items via real money trade (RMT), and players who conduct RMT are shown to have high levels of play continuance (Hamari, 2015).

The majority of academic studies for play motivation segment users into different categories. A widely adopted framework for player motivation was proposed by Yee

(2007). He describes three primary motivating factors, with a number of sub-motivators that further expand each factor:

1. *Achievement*

Advancement: Progress, power, accumulation, status.

Mechanics: Numbers, optimisation, templating, analysis.

Competition: Challenging others, provocation, domination.

2. *Social*

Socialising: Casual chat, helping others, making friends.

Relationship: Personal, self-disclosure, find and give support.

Teamwork: Collaboration, groups, group achievements.

3. *Immersion*

Discovery: Exploration, lore, finding hidden things.

Role-playing: Story line, character history, roles, fantasy.

Customisation: Appearances, accessories, style, colour schemes.

Escapism: Relax, escape from reality, avoiding real problems.

Park and Lee (2017, p. 3) state that “each component has weak correlations with the other and no motivation is more important than the others”. However, Park and Lee’s research is based on MMORPG games and narrative structure, therefore it is important to recognise that genre is not considered in the previous statement. There is an argument for differing motivations for different players, especially those playing different genres of games. The motivations of MOBA players have yet to be ascertained. Next, greater insight is offered into the three core motivators proposed by Yee (2007), with reference to numerous MMO studies.

2.3.1 Achievement Motivation

The ability to advance in a game and measure achievement varies from genre to genre due to different game designs. MMORPG encourage progression through levels, where a single character becomes more powerful and accumulates items such as weaponry or clothing. Levelling up a character and increasing the strength of a character's abilities enables players to progress within the power hierarchy of many games (Williams, Lee, & Caplan, 2008; Wu, Wang, & Tsai, 2010; Hotho & MacGregor, 2013; Wang, Mayer-Schönberger, & Yang, 2013). The process of levelling up a character also increases the player's loyalty, or play continuance (Bilir, 2009; Lehdonvirta, 2010). In MOBA's such as *League of Legends*, the achievement and status of players can be measured through champion mastery points and 'rank' (Ferrari, 2013; Ridgewood, 2014; Agha, 2015), which is a system that arranges players in skill level, from Bronze (the lowest) to Challenger (the highest). This kind of achievement is a central part of the experience within many games, with achievement levels reflecting the competence of the player (Constantiou, Legarth, & Olsen, 2011).

Additionally, achievement can be assessed through meta-game rewards that exist in addition to the traditional gaming experience. Meta-game rewards are common on consoles such as PlayStation and Xbox, where trophies – or “visual indicators of the completion of a task” – can be accumulated across multiple games (Cruz, Hanus, & Fox, 2014, p. 1). Interestingly, the ‘honour system’ that exists in *League of Legends* also functions as a peer-driven meta-game trophy system that rewards players for positive in-game behavior across multiple games. In addition to greater status achievement, *League of Legends*' honour system (*League of Legends*, 2016) provides players with “additional in game rewards that can be broadcasted publicly, such as a profile icon or banner”, where players can honor each other for “great teamwork, [being] friendly, leadership, or if that player was an enemy, honorable opponent” (Caudill, 2015, p. 46). This can be a great source of pride for some players.

The power of game characters can be measured through mechanics (Yee, 2007; Williams, Lee, & Caplan, 2008; Hotho & MacGregor, 2013), with statistics

describing abilities of the character – e.g. numbers associated with the quantity of damage output, optimising certain types of characters for certain roles, etc. – and optimisation through possession of special items. These aspects provide users the opportunity to objectively analyse characters. This functional form of power measurement is consistent throughout MMORPG and MOBA games.

The ability to accumulate special items is also a form of achievement (Lehdonvirta, 2009; Wu, Wang, & Tsai, 2010; Hotho & MacGregor, 2013), with the collection of rare, exclusive, and limited edition items providing players with feeling of achievement and status. An example of special items in MOBA is ‘skins’, which are items that augment standardised character appearances. Many *League of Legends* players aim to collect all of the skins in the game, which is considered to be quite an achievement given that there are 134 champions, some of which possess up to ten skins each. Additionally, certain skins are only available for players who achieve a certain level of ranked play.

Competition is another important form of achievement within MMO games (Yee, 2007; Williams, Lee, & Caplan, 2008; Wu, Wang, & Tsai, 2010; Burroughs & Rama, 2015). Competitive motivations can range from the desire to be better than other players and have a higher rank, to playing professionally within an e-sports environment (Pobiedina, et. al., 2013; Ridgewood, 2014; Agha, 2015; Caudill, 2015), to challenging others via provocation and assertion of dominance (Yee, 2007; Brehm, 2013). Some scholars describe these behaviours as violent or aggressive play, where the objective is to kill other players (Lin & Sun, 2007; Tseng, 2011; Hotho & Macgregor, 2013). Tseng’s survey of 228 Taiwanese gamers found that players with a high need for aggression tended to be male, with 45% of aggressive gamers being business owners and executives. Also, aggressive players were far more likely to purchase in-game items via RMT, with moderate to high levels of immersion. It is also noted that aggressive players have a higher tendency to display addictive behaviour (Bilir, 2009; Blinka & Mikuska, 2014), and are more likely to participate in behaviours such as flaming other players and griefing (Paul, Bowman, and Banks,

2015). This type of negative behaviour is also known as being ‘toxic’ in many gaming communities (Hinnant, 2013; Ridgeway, 2014).

2.3.2 Social Motivation

The social aspect of online games attracts many gamers, who see online gameplay as an opportunity to interact with new people and make friends online. Blinka and Mikuska identified social motivators as one of the primary drivers for online gaming (2014), and Bowman (2012) identified social motivations to be the foremost driving factor for online gameplay.

Social gameplay can provide opportunities for players to develop both casual and gameplay-related supportive relationships, with chatting and casual interaction forming an important part of social gameplay (Williams, Lee, & Caplan, 2008). The ability to connect with other players and make friends, along with the ability chat with other players in the game form an integral part of MMO design. Castronova (2001) states that “these communications allow social interactions that are not a simulation of human interactions; they are human interactions, merely extended into a new forum”. Not only is the interaction with other gamers a point of attraction, but also the opportunity to have a social standing within the game’s community. The ability to construct an identity online and show off rare items and achievements to other players is a powerful driver for some gamers (Ducheneaut, Yee, Nickell, & Moore, 2006). In some cases, this social standing allows the user to supplement a potentially underdeveloped social life in reality (Blinka & Mikuska, 2014). Some players were found to consider their online friends to be better or more valuable than their real life friends (Zackariasson, Wålin, & Wilson, 2010).

Teamwork is cited as an important contributing factor, especially when including collaboration with other players and concentrating team efforts toward group achievements (Hotho & MacGregor, 2013). Seeking and giving support to teammates (Yee, 2007) is a key component of many MMO’s, particularly those that operate in a team environment – i.e. when completing dungeon missions on *The Elder Scrolls*

Online or playing a game on *League of Legends*' Summoner's Rift. Players experience supportive relationships when teamwork is effectively carried out (Yee, 2007; Williams, Lee, & Caplan, 2008).

Antisocial Behaviour

Some users play to disrupt and aggravate other players, displaying antisocial behaviour, which would be completely unacceptable in real life situations (Chen, 2010). Griefing is described as "engaging in activities meant to disrupt other players' game experience" (Paul, Bowman, & Banks, 2015), and examples of this include harassment, power imposition, scamming, and greed play. Bowman (2012) found that some people play games purely for antisocial reasons, and according to Paul, Bowman, & Banks' 2015 study, 'griefers' and community-oriented players both experience the same level of enjoyment. A common pattern in griefing players is the belief that "it is just a game" (Paul, Bowman, & Banks, 2015), which indicates very low levels of immersion. Bowman's 2012 survey of 450 participants from Germany and U.S. showed that antisocial – or 'griefing' - behaviour is most likely to occur in young males with a high degree of technical skill in the game, with a high level of disbelief in the game, or low immersion. Often, these antisocial individuals are young males in their teens, between the ages of 13 and 18, as seen in Chen's study of 1418 gamers in Taiwan, and in Blinka & Mikuska's study of 667 gamers in the Czech Republic and Slovakia (Chen, 2010; Blinka & Mikuska, 2014). Chen identifies reduced perception of reality (or high immersion) as one reason that some adolescents perform antisocially online (2010), while Blinka & Mikuska (2014) found that players with poor social skills tended to behave antisocially both online and offline. Interestingly, Bowman's findings relating to immersion levels appear to directly contradict Chen's findings. However, a common theme in griefing players is the "desire to assert power through knowledge of game aspects" (Paul, Bowman, & Banks, 2015, p. 246), which remains consistent with the tendency for griefing players to be highly skilled (Bowman, 2012). The prevalence of flaming, griefing, and toxic behaviour is a risk associated with virtual worlds due to practical issues associated with in-game governance (Lastowka & Hunter, 2004; Chew, 2010; Hotho & Macgregor, 2013).

Identity, Gender, and Sexuality

Another factor associated with player motivation is the construct of identity (Zackariasson, Wålin, & Wilson, 2010). Players of MMO games often display their identity through customization, with avatars or characters being chosen or built in a certain way, in order to directly reflect the personality or identity of the player (Ducheneaut, Yee, Nickell, & Moore, 2006; Zackariasson, Wålin, & Wilson, 2010). Zackariasson et. al. state that “the purchases of an individual help establish an identity” (2010, p. 227), with “virtual identity shaped as closer or further away from a physical world identity” (2010, p. 280). As such, some people have a tendency to create ‘alter-egos’, such as the selection of a character with opposite characteristics than that of the person themselves; e.g. choosing a gender other than the one they identify with (Castronova, 2004), or even that of a non-human entity – i.e. Khajit in *The Elder Scrolls Online*, which are a catlike race, or a champion such as Malphite in *League of Legends*, who is a virtual entity composed entirely out of stone.

Conversely, many players build a representation of themselves that includes the fulfilment of expected gender roles, e.g. females performing in passive or non-combatant roles, such as healers, or males performing more aggressive roles such as tank or bruiser characters (Bowman, 2012). The trait of behaving aggressively is perceived as inherently masculine by players of online games, as shown by Brehm’s study (2013).

Female players are in the vast minority in many game environments. This is partially due to the notorious risk of being subjected to extreme sexism and abuse if a female player reveals their gender (Brehm, 2013; Fox & Tang, 2014). The latest official statistics on *League of Legends* player demographics show that less than 10% of players are female (Riot Games, 2012), with only one female player featuring in the history of *League of Legends*’ competitive e-sports. The online gaming environment has a history of strong heteronormativity, which has resulted in similar abuse to players who are revealed as homosexual or of a non-binary gender (Caudill, 2015).

This hostile environment has led to those in the minority disguising their gender in order to avoid harassment from other players. Some experts criticise the portrayal of female characters within video games, with vast underrepresentation for females, non-binary sexualities, and non-normative genders. Additionally, overt sexism in regard to gendered roles has been noted, along with underrepresentation of different races (Brehm, 2013; Fox & Tang, 2014). After some analysis it must be noted that *League of Legends* has made a concentrated effort to display equal representation of gender, race, and sexuality throughout the game. Out of the 136 champions currently available to play in *League of Legends*, there is a relatively even balance of male to female champions, with the inclusion of a number of non-gendered or ‘monster’ champions. They portray a variety of stereotypical and non-stereotypical traits, for example, a range of male healers and female assassins. The community also actively influences beliefs about the sexuality of several of the champions, notably; a male named Taric, and a female named Vi. These champions are generally accepted as being homosexual and lesbian, respectively.

Enjoyment and Fun

People who play for enjoyment are often categorised as casual gamers. This segment of gamers tends to have a high social motivation to play games, with connectivity to social media often proving a successful method with which to attract casual gamers looking for enjoyment (Tseng, 2011). This has led to development of a rapidly growing casual game market (Bowman, 2012). Casual games are often offered on mobile platforms, resulting in games like Clash of Clans and Candy Crush Saga, and the growth of this market reflects the increased interest shown by casual gamers (SuperData, 2016). These games involve regular attention, with the user generally checking them once or twice a day. It is shown that casual gamers are unlikely to play for long periods of time. Due to the time commitment required to progress and experience the game, many MMO’s – especially MMORPG - are impractical for casual gamers (Consalvo, 2009).

Female gamers are primary customers for the casual gamer market, which is typified by social media games and social virtual world games experiencing a noted increase in female game users. This has prompted further development and optimisation of story-based games for the female audience (Lee, Suh, Kim, & Lee, 2004; Wu, Wang, & Tsai, 2010). Social gamers find aggression and griefing as a very negative experience, as it directly contradicts the ‘enjoyment’ factor. As such, griefing is rarely observed in casual gamer behaviour (Tseng, 2011). By nature, casual gamers display lowered likelihood of addiction (Blinka and Mikuska, 2014).

2.3.3 Immersion Motivation

Immersion is an integral part of online gaming, where the level of player belief in the game initiates a pleasurable experience for the gamer. According to Wu, Wang, and Tsai, “immersion is a state that may have resulted from continued enjoyment” (2010, p. 1864). Immersion can be achieved in many ways, most classically through discovery in MMORPG games. This typically involved exploring the map of the game or travelling through the virtual world. Learning the lore and history of the characters, and becoming familiar with different races and alliances within a game is also a common way to establish immersion. Finding hidden things in the environment, and role-playing through a storyline with relevant character histories and roles are other ways that immersion is encouraged (Williams, Lee, & Caplan, 2008; Tseng, 2011).

Customisation also contributes positively to immersion, where appearances, accessories, styles, and colours of game objects can be adjusted according to the user’s preference (Hotho & MacGregor, 2013). Turkay’s (2015) experimental study of 66 participants in the U.S. found that those participants that were allowed to customise elements of an online game displayed much higher levels of immersion, enjoyment, and intent to play, when compared to their counterparts who were not able to customise anything (2015).

Escapism, or the practise of playing a game to distract oneself from real world responsibilities or problems, is a common occurrence as a result of players experiencing high immersion in a game. When this occurs, users experience life through the activities of the avatar or find themselves absorbed in the objective of the game, which can give a sense of autonomy and control (Hotho & Macgregor, 2013; Blinka & Mikuska, 2014).

In addition to these previously mentioned foundational attributes, immersion is influenced by a number of other factors. In his survey of 865 online gamers from various forums and gaming websites, Teng (2010) identifies social presence – or the perception of sociable and human contact in the media – as a key factor increasing levels of gamer immersion. This is due to the player experiencing an alternative social experience, in contrast to the traditional face-to-face method of social contact (Blinka & Mikuska, 2014).

Addiction

Addictive behaviour is often fuelled by a need for excitement and discovery, that which often not found in day-to-day life (Tseng, 2011; Blinka & Mikuska, 2014). Additionally, social deficits in day-to-day life are another driver of online gaming addictions, as gamers are found to replace interpersonal, face-to-face interactions with online interactions via gaming platforms. This is associated with social anxiety and escapism, where the user considers online socialising through games as an alternative to traditional social activity, also known as ‘social compensation’ (Blinka & Mikuska, 2014).

Escapism is also a widely accepted driver for addictive game play, with the user immersing themselves in the game environment to relax, forget or ignore real world problems, and escape from reality (Yee, 2007; Hotho & MacGregor, 2013; Blinka & Mikuska, 2014). It is important to note that high immersion increases the likelihood of player addiction, and low immersion may increase the likelihood of players displaying griefing behaviour (Chen, 2010; Bowman, 2012; Blinka & Mikuska,

2014). These are two different forms of antisocial behaviour, with addiction impacting negatively on real-life social activity, and grieving impacting negatively on in-game social activity (Blinka & Mikuska, 2014; Paul, Bowman, & Banks, 2015).

Mood Repair

An interesting factor that has become apparent only in recent years, is a concept known as ‘mood repair’. This describes “a shift in mood state from noxious (negative valence) to optimal (positive valence)” (Bowman & Tamborini, 2013, p. 376). According to Rieger, Frischlich, Wulf, Bente, and Kneer (2015), the mood management process relies on two basic mechanisms:

(1) *distraction* from the negative mood, and

(2) the *process* of mood repair itself

The process of mood repair can be understood as either; a) reducing boredom or noxious moods in an individual through arousal initiated by high task demand whilst playing a game; or, b) reducing stress/overstimulation in an individual by choosing calming or low task demand games. It is suggested that moods such as sadness, incompetence, and lack of control can be mediated through high task demand games (Rieger, et. al., 2015). Additionally, increases in positive mood, decreases in negative mood, and distraction from the noxious mood occur through task load (also known as ‘interactivity’) and involvement in the game (Bowman & Tamborini, 2013; Rieger, et. al., 2015).

With this understanding, it is understood that the concept of mood repair may be strongly related to escapism (Blinka & Mikuska, 2014). Instead of looking at escapism with negative connotations, objectively it must be considered that mood repair via gameplay has the potential to address issues such as player toxicity and negative antisocial behaviour. Additionally, the negative connotation of addiction could be reframed to instead describe the positive construct of mood repair, where

individuals who experience unpleasant events in real life are able to use computer games to actively readjust their mood.

2.4 Purchasing Motivations

The purchasing motivations of users of virtual goods within the virtual world is a fascinating topic. Importantly, an up-to-date definition of virtual worlds and virtual goods is provided by academic research. The correlations between real and virtual worlds are discussed, with input from a variety of viewpoints and research. Further literature covering the area of virtual items and the defining factors contributing to the functionality and purpose of these items is included, resulting in the identification and categorisation of three separate item attributes. Virtual currencies and the economic implications of RMT in virtual worlds are expanded to illustrate the complexities of this area, along with the exploration of the actual and perceived values of virtual goods in online game environments.

2.4.1 The Realm of the Virtual World

Virtual worlds have been the subject of a plethora of academic studies and discussion since the beginning of online activity. A definition of virtual worlds by Castronova (2001) expounds that virtual worlds have three defining characteristics:

1. Interactivity, meaning concurrent, multiple user inputs to the interface affect the experiences of other users;
2. Physicality, in that an avatar exists in a simulated environment based on real world dynamics such as scarcity and economics; and
3. Persistence, in that the virtual world continues to operate even if all players aren't active or present.

These three characteristics are well recognised (Pearce & Artemesia, 2009), and have set the foundation for research on various fields of online activity, including virtual economics, virtual law, virtual education programs, or cyber psychology, amongst

others (Bilir, 2009). Huzinga's 'magic circle' view of play was first published in the 1930's, and since then has also been very influential in the perception of virtual play and online realities (Consalvo, 2009; Lehdonvirta, 2010). The basis of this concept is that virtual play is "insulated from or opposite to the utilitarian characteristics of the physical world" (Lin & Sun, 2007, p. 336), or seen as separate from everyday life. This way of perceiving virtual games and virtual worlds has shaped the way online gaming research has been conducted. This is due to many scholars either consciously or subconsciously supporting the magic circle view (Castronova, 2001; Lehdonvirta, 2010).

Consalvo (2009) goes as far as denying the existence of the magic circle altogether, describing the concept as being "static and overly formalist," arguing that the rules of the game exist in conjunction with the rules governing reality, rather than the virtual world being entirely detached from the real world. Other scholars have proposed that the term 'virtual world' itself is not accurate when describing online games. Rizzolli (2012, p. 62) states that "material and non-material dimensions are simultaneously opposed and intertwined", and Lehdonvirta (2010) also argues that the line between 'real' and 'virtual' worlds has become hard to distinguish, to the point where the difference is no longer relevant. Indeed, Dibbell (2006, p. 11) suggests that what is seen as "make-believe value in make-believe worlds" is actually no different from the value placed on physical objects in the reality of everyday life, due to the perception of value that people attribute to otherwise useless objects in both situations.

Lehdonvirta states that in online games, virtual space, and physical space are directly connected, for example, by sorting players into geographic continents or time zones to better facilitate gameplay and connectivity. The end of virtual space and the beginning of real space is further blurred by users connecting on discussion forums, chats, voice communication platforms, video sharing platforms, and social media (Lehdonvirta, 2010), with Dibbell going further to point out that gamers may physically meet in order to establish higher levels of trust for trade and gameplay (2006).

The differentiation between real and virtual identities can be difficult to distinguish. Although people are assumed to have both a real and a virtual identity – especially if the magic circle concept is applied - the two overlap in many instances, with real world topics such as television, work, school, and relationships often being discussed within the virtual environment (Castronova, 2001; Lehdonvirta, 2010). As such, the real and virtual identities of a person are not mutually exclusive.

Virtual economies are as diverse and unpredictable as real economies and have been used as the basis for virtual economic theory. Castronova's work, in particular, is often cited as a foundation for virtual economics (Castronova, 2001; Bilir, 2009, Hotho & MacGregor, 2013). Both economics and law and politics of virtual worlds are shaped by external, real world influences (Lastowka & Hunter, 2004; Bilir, 2009). Therefore, it can be understood that the virtual world has become an extension of our real world - or that the two are “interdependent”, to borrow Rizzolli's term - and academically, it must be discerned whether the dichotomy is necessary at all (Lehdonvirta, 2010; Rizzolli, 2013).

2.4.2 Virtual Item Categories

For the purpose of this review, a definition of the goods within these worlds is necessary. Hamari defines virtual goods as “digital in-game objects that are only usable within the game environment” (2015, p. 299). Keeping this in mind, it is necessary to identify the purchasable goods in online games as ‘virtual items’ as they are consumable or useful only within the virtual environment. Most commonly, these items are in the form of “buildings, weaponry [and clothing], pets, and jewellery” (Rizzolli, 2013, p. 60).

Virtual items have been broadly categorised into two different segments; 1) functional items, and 2) cosmetic, ornamental, or decorative items (Lin & Sun, 2007; Lehdonvirta, 2009; Lehdonvirta & Hamari, 2010; Tseng, 2011). Lehdonvirta (2009) defines functional goods in a similar manner, but goes further to break down cosmetic

goods into two separate categories with different purchasing drivers; a) hedonic, and b) social (fig. 2).

Functional attributes	Performance Functionality
Hedonic attributes	Visual appearance and sounds Background fiction Provenance Customisability Cultural references Branding
Social attributes	Rarity

Figure 2. Virtual item attributes as purchasing drivers (Lehdonvirta, 2009)

Therefore, functional, hedonistic, and social are considered as the primary categories for virtual items.

Functional Goods

Goods that are intended to increase the defensive or offensive power of a character in some way, be it improvements in character ability, 'power', damage, or general in-game performance, are recognised as functional goods (Lehdonvirta, 2009). These goods can be consumables, improved weaponry, account-based enhancements, and more. Extra lives or experience boosts are also examples of functional items, for example, the IP and XP boost bundles available in the *League of Legends* in-game store.

Hedonic Goods

Hedonic – also known as *hedonistic* – goods, are those that are purely aesthetically or aurally pleasing to the user, valued solely for the altered appearance it gives characters, weaponry, or environmental aspects (Lehdonvirta, 2009). Animations and sound effect augmentations are included in the hedonistic category; for example,

specific ‘skins’ or character customisations in online games may display customised voices, animations, and special effects.

Social Goods

Social goods are those that offer improved status, respect, and appreciation of other players. Social goods can also enable players to express their identities in certain ways, for example, buying items that allow crafting of armour that is associated with the guild that the player identifies in, or customisation of an avatar to make the character more closely represent the players’ physical attributes (Hotho & MacGregor, 2013). Other examples of social items are rare or limited edition goods that hold social value due to their scarcity, as well as items that are only released during a specific time period (Lehdonvirta, 2009). An example of a virtual item that has a social quality is the Victorious Maokai skin, which was earned exclusively by *League of Legends* players who achieved the Gold rank in season seven, a status that only 16% of ranked players achieve (OP.GG, 2017). Similar limited edition or restricted access items can associate their owner with a particular event or period in the game’s history, which can then be associated with a long period of membership or high level of game mastery.

2.4.3 Virtual Currencies

Virtual goods that are purchased via RMT possess value beyond their purchasing drivers. Some form of real currency has been exchanged in trade for these items, which are generally of a high value in the game. RMT has been conducted to convert real currency into a certain amount of virtual currency; for example, USD into Azerothian dollars in *World of Warcraft*, ‘crowns’ in *The Elder Scrolls Online*, or RP in *League of Legends*. Jung, Lee, Yoo, & Brynjolffson (2011, p. 9) define RMT as “a process of optimising the procurement of game items by players whose opportunity costs of producing them are higher”.

Virtual currencies have an equivalent value in real currency value, as a type of foreign exchange (Castronova, 2004) with measurable parity. In 2007, *World of Warcraft*'s Azerothian Dollar traded at an unofficial rate of seven per US Dollar (Philips, 2007), making it one of the most valuable currencies in the world, well above that of many developing countries, and comparable to the Hong Kong Dollar and Swedish Kroner, amongst others (Antweiler, 2016). Second Life's Linden Dollar was worth 270 Linden Dollars per US dollar in 2007 (Deans, 2009), proving to be more valuable than the Italian Lira at that time (Antweiler, 2016).

2.4.4 The Actual Value of Virtual Possessions

Virtual possessions have come under scrutiny regarding legal rights and ownership. According to Yoon (2004), in-game items are considered to be personal property, but are only legally recognised as information goods with the right of ownership belonging to the developers. As such, players have a "right to use" the goods under terms of service. The value of these goods includes the actual value of the item as translated by foreign exchange into real currency, as well as an equivalent value upon exchange into virtual currency (Castronova, 2004; Lehdonvirta, 2009). This monetary value is supplemented by the intrinsic value of the good, such as a rare item possessing a higher degree of value due to scarcity. Another example of intrinsic value would be an item that has been enhanced – or 'enchanted', as in *The Elder Scrolls Online* – via a long process of experience, collection of materials, and levelling up of skills, thus increasing the value of the item equivalent to the time invested (Lehdonvirta, 2009). This value can be associated with the 'value of time', as discussed in Hamari's 2015 research model, which addresses the purchasing intentions of online gamers.

2.4.5 Perceived Value of Virtual Possessions

The value of items has been addressed, broken down into functional, social, and hedonic values. Virtual items may possess all three of these types of value

concurrently. Various models of value perception measurement have been developed to measure these perceptions of value and subsequent purchasing drivers. Venkatesh et. al.'s UTAUT model (2003) combines eight previously identified user acceptance models, and is widely recognised in a number of MMORPG studies (Venkatesh et. al., 2003; Guo & Barnes, 2015), particularly regarding the functional attributes of virtual goods. Guo & Barnes (2015, p. 69) go on to propose a research model (fig. 3) that attempts to “identify, model and test the individual determinants for the decision to purchase virtual items within virtual game communities”.

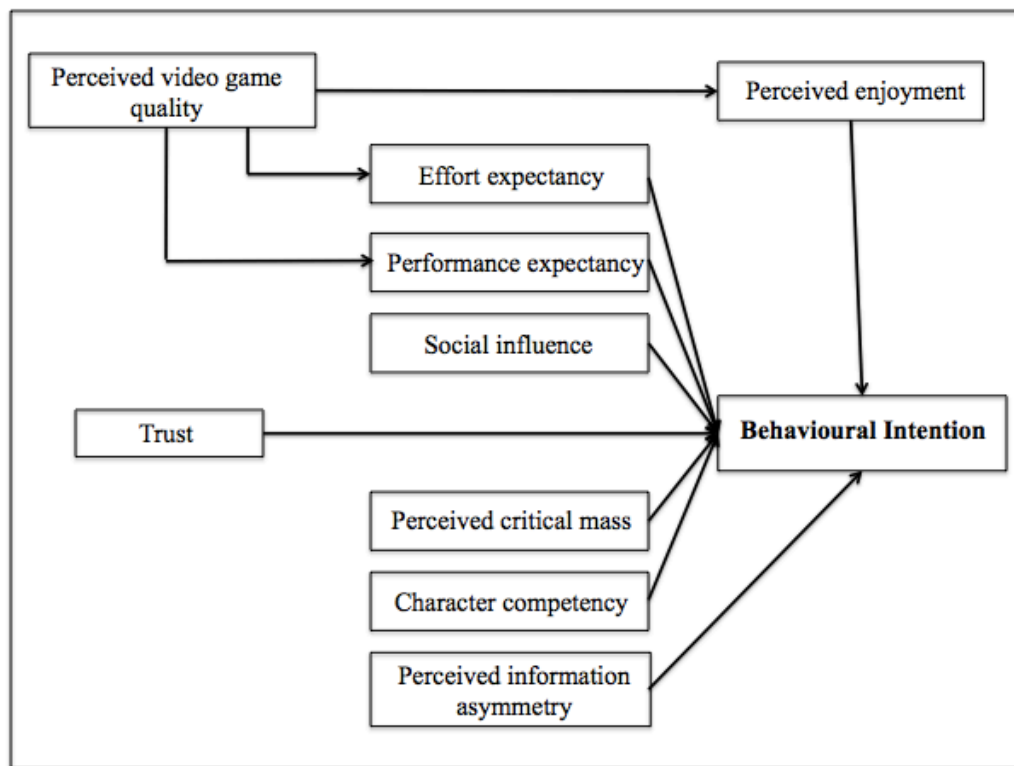


Figure 3. Research model (Guo & Barnes, 2015)

Guo and Barnes’ model (2015) offers a conceptual foundation for understanding the motivation for players to conduct RMT in online games, with a particular focus on the user’s perception of value and their subsequent behavioural intention.

2.4.6 Revenue Generation in Online Games

The free-to-play (F2P) revenue model has evolved to include formalised in-game purchase processes, with the total of these microtransactions resulting in revenues as high as the GDP of real countries per annum (Dibbell, 2006; Bilir, 2009; Jung, Lee, Yoo, & Brynjolffson, 2011). F2P models rely on a large number of users making small purchases (micro-transactions) from in-game stores in order to generate revenue. The ideology behind this model is for smaller game developers to use the model to launch games, keep servers online, and ideally enable further development of the game.

This model is most commonly recognised in mobile app games such as *Candy Crush Saga* and *Clash of Clans* (SuperData, 2016), but has also been successfully implemented in many online games. Many subscription-based games have since transitioned into F2P in order to retain users and attract new players as the market becomes more competitive. An example of this is Bethesda's *The Elder Scrolls Online* releasing a F2P version of the game named *Tamriel: Unlimited* in 2014, which removed the subscription requirement for online access. The most notably successful examples of online computer games releasing beta clients under the F2P model are MOBA games, such as *League of Legends* and *DOTA 2* (Andronicus, 2014).

Free-to-play models require real money trading (RMT) to facilitate the exchange of value. In its most basic form, RMT is defined as “spending real world money to purchase online virtual items” (Urschel, 2011, p. 1). Nazir & Carrie (2015, p. 149) further define RMT as “the buying and selling of virtual currency, virtual items, and services with real world money”. The inclusion of currency and service exchange as part of RMT is a development that must be acknowledged, with Nazir & Carrie's definition being adopted for clarity and consistency throughout this study.

The activity of RMT first emerged in 1999 as player-to-player trade in MMO's such as *Ultima Online* and *EverQuest* (Lehdonvirta, 2009), with game designers of the time never originally intending virtual items to be traded for real currencies (Bilir,

2009). However, the acquisition and peer-to-peer exchange of desirable virtual items became prominent in MMORPG and MMO games as they gained popularity and user bases grew. For a period of time, many people made a living by trading virtual goods for real money (Dibbell, 2006; Urschel, 2011), to the extent where tracts of virtual property were being sold for hundreds of thousands of real US dollars in MMO's such as *Entropia Universe* and *Second Life*.

The implications of introducing real world currencies to online game environments are not only diverse and complex, but also dependent on the game structure itself. The diverse and widely uncontrolled nature of these transactions has generated academic discussion regarding the economic and legal aspects of RMT since the early 2000's (Yoon, 2004; Bilir, 2009; Lehdonvirta, 2009; Jung, Lee, Yoo, & Brynjolffson, 2011). Some experts criticise RMT itself, as well as the use of in-game purchase models for primary revenue generation. Castronova performed a cost/benefit analysis of RMT, with his findings showing negative effects such as decreased value of the game for players, and increased costs for developers (2006).

Many games – for example, *Final Fantasy XIV*, *Guild Wars 2* and *Lineage II* – have instigated bans of player-to-player RMT in the End User Licence Agreement (EULA) in order to maintain the economic, social, and legal stability of the game (Urschel, 2011), or at very least, “mark out the terms of access to the [virtual] world” (Lastowka & Hunter, 2004). However, most cases of negative RMT occur via third-party environments (Jung, Lee, Yoo, & Brynjolffson, 2011) where peer-to-peer trade is facilitated (Urschel, 2011), and where fraud is prevalent and difficult to monitor (Yoon, 2004).

In contrast to Castronova's 2006 study, Yoon (2004) states that RMT increases revenue and that publishers should not ban RMT. He recommends that instead, structural issues in games that lead to imbalances should be corrected, and publishers should regulate the in-game behaviour of players to reduce cybercrimes such as larceny and fraud (Yoon, 2004; Lastowka & Hunter, 2004). One way of achieving this and countering third-party RMT markets is through establishing “in-game auction houses to facilitate the exchange of virtual goods” (Wang, Mayer-

Schönberger, & Yang, 2013). Interestingly, *League of Legends* has done this through enabling a highly controlled peer-to-peer RMT system which only functions through the game's client, in the form of a 'gifting' system. This design ensures that third-party RMT markets are disabled and cannot create complications for the game provider.

When discussing RMT and microtransactions, it must be understood microtransactions in online games can only occur *through* RMT, with real money being used to purchase virtual items, currency, or services offered by the game provider. As stated by Hamari and Lehdonvirta (2010), "perhaps most frequently, the object sold for real money is a virtual currency, which is then exchanged for virtual items". This is observed in Riot Games' *League of Legends*, where players purchase 'Riot Points' or 'RP', which are then used to acquire items in the game.

RMT can occur in many ways: indirectly, via transactions and agreements conducted on external platforms by players, such as forums and payment intermediaries; directly, through in-game chat and peer-to-peer transactions: or, via an established store that is programmed into the game to enable RMT purchases and microtransactions (Dibbell, 2006). Microtransactions are typically small amounts of money, and generally users make several microtransactions over a period of time, instead of one large instalment (Hamaria & Lehdonvirta, 2010; Hotho & Macgregor, 2013).

Lehdonvirta (2009) recommends implementation of a dual currency system to help balance RMT and ensure fairness. This is where the in-game currency – i.e. 'points', 'gold' or 'coin' - can be generated by players through gameplay activities. This might be through completion of quests or fulfilment of similar achievement criterion. The player then acquires the in-game currency that is generally of lesser value to the RMT currency that can be acquired via microtransaction. Examples of RMT currency include *The Elder Scrolls Online*'s 'crowns' and *League of Legends*' 'Riot Points' or 'RP'.

Enabling a dual currency system means that players who do not or cannot spend real money can also enjoy special items and perks. Dangers can occur when players with

disposable income are able to ‘buy’ their way through levels (Bilir, 2009; Lehdonvirta, 2009; McLean, 2015), but this occurrence depends entirely on the game’s design. For revenue generation purposes, high-level items are often only acquired through RMT currency. To achieve balance, these special items are often not highly functional – for example, cosmetic skins available in *League of Legends*, or special mounts and pets in *The Elder Scrolls Online*.

From a legal perspective, RMT occupies a proverbial grey area in terms of ownership of goods. Yoon (2004) argues that game providers do not have the right to create player-to-player RMT bans, as legally, players are paying for the use of the game and associated items. Therefore, the ‘*gwonri-geum*’ or ‘goodwill’ payment associated with highly valued items in RMT is outside the jurisdiction of the game publisher, and instead exists “in the domain of private autonomy” (Yoon, 2004, p. 38). Other issues of RMT include ethical issues, as some game platforms engineer a point where players can progress no further – albeit very slowly - unless money is spent on unlocking items, boosts, or quests (Davison, 2013). This practice of creating artificial demand has generated negative feedback from many gamers, and criticism from experts in the field.

The result of this artificial demand is often the occurrence of ‘pay to win’, where users can purchase goods or bundles that give them an advantage in game play, which may be considered as unfair by players who do not or cannot buy items (Hamari, 2015). *DOTA 2* inadvertently triggered a ‘pay to win’ situation in 2015, hosting a special event where virtual items augmented the game in the favour of those that had purchased a special bundle, available only through the real money currency (McDonald, 2015; Savov, 2015). The occurrence of pay to win situations tend to result in user outrage and boycotts by gamers. In *DOTA 2*’s case, repercussions were mediated due to the event’s short time period. In addition to situations like this, pay to win has both directly and indirectly destroyed the economic balance of some games (Smith, 2006; Hewitt, 2011; Jung, Lee, Yoo, & Brynjolffson, 2011).

Keeping these factors in mind, it is agreed that in-game purchases must leave the economic balance of the game unaffected, as inflation can be caused by RMT and

poorly designed in-game purchase systems. Inflation results in dramatic changes in the virtual economy, which can negatively affect gameplay (Bilir, 2009; Hamari, 2015). One case of this occurring is in *Runescape*, where the developers banned peer-to-peer RMT due to imbalances that were occurring in the game's economy (Bilir, 2009).

2.4.7 Purchase Intentions

Motivational drivers for players of MMO games to purchase virtual in-game items is integrally tied to many of the play motivations discussed previously. It is obvious that play motivations dictate the initial decision for the user to play the game. Lehdonvirta (2009) argues that players must have a certain level of belief – or immersive feelings – in a game, before making a purchase. Hamari and Lehdonvirta (2010) explain this phenomenon, stating that players must experience a “certain amount of immersion before virtual objects begin to feel desirable enough to purchase”. Further, the action of making the purchase increases the level of immersion experienced by the player (Lehdonvirta, 2009). This reinforcing loop contradicts Castronova (2006), who found that RMT reduces the level of immersion for players, where the game becomes less believable due to interference and disturbances caused by RMT and introduction of external resources. However, Castronova's study was based on early MMORPG games, so it is possible that RMT has become more seamless and user friendly over time.

Importantly, players must display play continuance and game loyalty before committing to investing money into a game. Also, it is expected that the player enjoy the game before they make the decision to conduct RMT purchases. A number of studies address the difference between users who conduct RMT and make in-game purchases, and those who do not.

One good example is Hamari's 2015 study that proposes a research model based on the TRA, designed to look at the purchasing intention of online game players. This study considers the impact of subjective norms, which are defined by Ajzen (1991) as

“a perceived social influence from important others to perform or not perform a certain behavior” (Hamari, 2015, p. 301). Hamari believes that previous studies had been inconclusive in determining whether social influence from other players, or subjective norms, had the most impact on purchasing intention. Other factors included in the framework are the player’s attitude toward virtual goods, their perceived enjoyment of the game, and continuous use intentions (fig. 4).

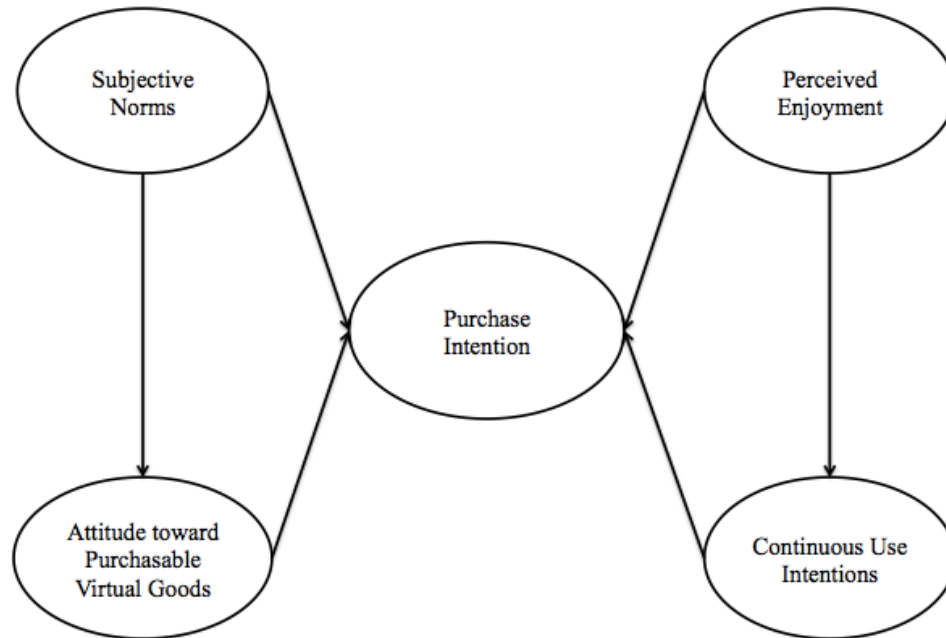


Figure 4. Research model for purchase intention (Hamari, 2015)

Hamari (2015) states that the purpose behind this model is to discern the connection between pre-existing and established motivations behind playing online games, and motivations for making micro-transactions within the game. He used the model to assess over 2000 players of three different free-to-play games; social network games on Facebook, first person shooters, and the social world game *Habbo Hotel*.

His findings showed “(1) enjoyment of the game reduces the willingness to buy virtual goods”, and “(2) attitude toward virtual goods and the beliefs about peers’ attitudes strongly increase the willingness to purchase virtual goods” (Hamari, 2015, p. 299). Intention to for play continuance was also positively associated with making micro-transactional purchases.

The finding that shows enjoyment to reduce intention to conduct RMT appears inconclusive, however it can be understood that ‘enjoyment’ is equivalent to ‘satisfaction’. If this assumption is accurate, it can be understood that players make virtual item purchases in order to achieve satisfaction by remedying a deficiency in the game. Hamari (2015) states that developers of free-to-play games operate on a fine line between providing enough enjoyment to retain users, yet not so much enjoyment that they are satisfied and feel no desire to purchase virtual items.

It was also found that the value of virtual goods directly correlates to the amount of time required to produce them, and that the monetary value of time spent in virtual worlds is measurable and able to be converted into monetary value for virtual goods. This concept is called ‘value of time’, and is perceived to be higher in games with an active user base, and perceived to be lower in games that have a flat social hierarchy (Hamari, 2015). With MOBA such as *League of Legends* possessing the most active user base of any online game in the world (Kollar, 2016), value of time may prove to be a highly relevant concept for further research into the game genre.

2.4.8 Concrete Purchasing Motivators

An empirical model developed by Hamari et. al. (2016) assesses concrete purchase motivators in free-to-play games (refer Appendix A). The objective of this research was to look beyond abstract psychological factors and address 19 concrete factors they believed directly influenced purchasing motivations and gaming motivations for users. The study involved surveying 519 users of free-to-play mobile games that had purchased in game content.

Unobstructed play, social interaction, competition, economical reasons, and indulging the children proved to be the most influential factors for microtransactions in mobile games. Hamari states in his conclusion that the “free-to-play game industry is an extensive one, including games for different platforms and in several genres, and offering various types of experiences” (2016, p. 21), with the acknowledgement that motivators are likely to be different across different platforms and genres of game.

This recommendation for future research is encouraging, as the framework holds great potential for enabling greater insight into MOBA players' purchasing drivers.

2.5 Conclusion

The purpose of this review has been to examine the numerous fields of research that apply to the topics of play motivation and purchasing drivers in the MOBA context. This meant including discussion of theories pertaining to play itself, motivation for play itself, classification of types of play, where MOBA game design promotes *ludus*, where the game is subject to rules, regulations, and processes laid out by the developer.

It is important to take a step back and consider exactly where the activity of online game play and consequent purchasing of virtual items actually occurs. The discussion of virtual world theory as proposed by Castronova (2001) provided insight into the definition of a virtual world. Discussion of Huzinga's magic circle concept is also provided, outlining a foundational theory originating in the 1930's. This concept views the online world as separate from the physical world or everyday life. Consalvo (2009) provided an argument against this view, stating that the rules governing a game exist in conjunction with those governing reality, essentially contradicting the magic circle view. Rizzolli (2012) further supported this view, arguing that material and non-material worlds are intertwined. This view must be carefully considered, as the very nature of RMT and microtransactions illustrate the material 'real' currency 'intertwining' in an exchange for non-material virtual goods. Dibbell (2006) offers an excellent observation of this phenomenon, suggesting that the value of virtual goods are no different from the value of physical objects, where the perception of the user creates value regardless of actual usefulness. A discussion of virtual currencies is also included, with the value of virtual currencies is outlined, and introduction of dual currency systems is provided, where an in-game currency and a RMT currency exist simultaneously in an attempt to retain fairness and economic balance within many F2P games, and avoid pay-to-win situations. A brief overview of the laws applying to

RMT within virtual worlds is offered, with the general consensus amongst academics being that the EULA reigns supreme and that game designers are responsible for ensuring the design of the game disables fraudulent behaviour amongst players.

This review included an overview of motivational theories pertaining to online game play, with TAM, UTAUT, TRA and TPB theories forming the basis of the majority of online game play motivational literature. Particularly notable is the application of uses and gratifications theory by Wu, Wang, and Tsai's (2010) finding that achievement, enjoyment, and social interactions all positively affect play continuance. This finding correlates to Hamari's (2015) study which found that players with a high level of play continuance are most likely to participate in RMT, or purchase virtual items in the game. This relationship between play motivation and the purchase of virtual items is vitally important to this research topic. Further, the motivational framework developed by Yee (2007) is introduced, segmenting players into three core categories, with the motivators of achievement, social, and immersion providing a theoretical base for the motivational aspect of this study.

The classification of virtual items within these environments offers some clarity as to the purpose of the various types of items, with functional items offering statistical advantages within games, and cosmetic items with hedonic attributes offering a number of values, including visual appearance and sounds, background fiction, customisability, cultural references, and branding. Social attributes are limited to rarity, where the value of a limited edition item is primarily that of social status. These item attributes are directly applicable to the types of items available to purchase in MOBA games, and as such, this framework offers an important basis for this research.

Finally, an overview of theory explaining purchase intention is provided, with this offering a key framework for addressing the purchasing driver element of the research question. Hamari's (2015) research model considers subjective norms, player attitudes toward purchasable virtual goods, as well as perceived enjoyment and continuous use intentions in relation to purchase intention. This model provides a valuable basis on which to examine MOBA player purchase intention, supplemented

with the addition of an empirical model assessing concrete purchasing drivers in F2P games (Hamari, et. al., 2016). This framework proposes a large number of drivers, many of which are applicable to MOBA games and may contribute to answering the research question.

An important part of this chapter was the identification of gaps in the literature. Gaps included the finding that there are limited studies comparing or correlating play motivation with purchase intention. Additionally, a lack of publications on the MOBA genre indicate that this game genre demands further research. Not only are there no literature on motivational studies for MOBA game players, and no literature looking at the purchasing intention for MOBA players, there is virtually no literature on the genre at all. When searching for MOBA literature, it was virtually impossible to find anything pertaining to the genre, much less peer-reviewed journal articles. Considering *League of Legends*' huge user base, notable growth within the online game industry, and unique game design elements, it is quite clear that the MOBA game area is in dire need for further research. There exists potential for groundbreaking discoveries and developments within play motivation literature, as almost all motivational studies have been conducted on MMORPG's such as *World of Warcraft*, with little deviation from this genre. The overwhelming success of MOBA games in the F2P and micro-transactional revenue model field is also important to note, as it may be expected that exploratory research of MOBA player purchasing drivers will reveal new findings for the academic community.

3. Qualitative Research

A study of the drivers influencing players of Massively Online Battle Arena (MOBA) games to make micro-transactional purchases.

3.1 Research Methodology

The theoretical underpinning of the methodology for this research must be understood through the lens of Burrell and Morgan's (1979) four paradigms, with this research positioned within an *interpretive* paradigm. This refers to the *subjective-regulation* quadrants of the matrix, where processes are observed to better understand individual behaviour. This research relies on an *anti-positivist* epistemology, which refers to the view that the social realm may not be subject to the same methods of investigation as the natural world. The researcher also supports that "social world is essentially relativistic and can only be understood from the point of view of the individuals who are directly involved in the activities which are to be studied" (Burrell & Morgan, 1979, p. 5), where new information adds to that previously identified. The research methodology is based on ideographic theory, where the focus is on exploring the detailed background and history of a subject. The overall strategy for this research was a *phenomenological* approach (Peruzzi, 1989); this was due to the explorative nature of the study, where the unique perceptions and behaviour of the population are being explored.

A mixed methods design was chosen in order to address the exploratory nature of the research topic, and aid in collecting holistic data that enables the voice of the MOBA game player to be heard through qualitative research. Further, to discern whether findings are representative of the wider MOBA player population, the qualitative findings are used to inform the design of a descriptive quantitative instrument, with

findings from this research phase being interpreted to gain greater understanding overall. As such, this research is based on an *exploratory sequential design* (Ivankova, Cresswell, & Stick, 2006; Cresswell, 2013), as illustrated below (Fig. 5).

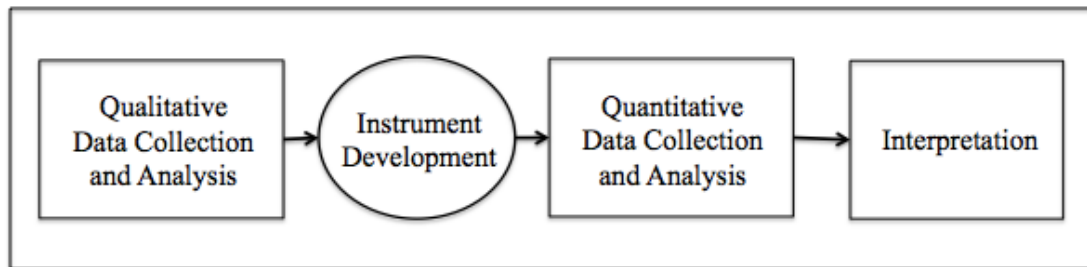


Figure 5. *Exploratory sequential mixed methods design*

Exploratory research is necessary when studying an area where little previous study has been conducted. The findings of this *exploratory qualitative research* are used to inform the development of the quantitative instrument. The findings from the *descriptive quantitative research* phase are then interpreted and used to develop a framework for further confirmatory research (Cresswell, 2013).

3.1.1 Research Questions

Following the literature review in Chapter 2, crucial gaps in the literature are a lack of study on the purchasing drivers that influence MOBA game players to make micro-transactional purchases. Also, a lack of research on the play motivation experienced by MOBA game players exists as another gap, with no studies to show the construct of identity or gender perception from a MOBA game perspective. Additionally, further gaps in the literature exist in that there are no studies considering play motivation in conjunction with purchasing drivers for MOBA game players.

In order to fill these gaps, the following research questions are employed:

- What are MOBA players' microtransactional purchasing habits?
- Why do players of MOBA games buy in-game virtual items?

- Are MOBA players influenced by traditional play motivators?
- How do MOBA players perceive their online identity?

These questions aim to address the research topic, “what are the purchasing drivers influencing players of MOBA games to make microtransactional purchases”, from the angle of play motivation and online identity. As such, an examination of both purchase motivation and play motivation is conducted. This research involves the exploration of MOBA game players’ perception of virtual items; the attitudes and drivers behind micro-transactional activity, and motivational drivers behind play activities and identity perception.

The question relating to purchase motivation draw directly from Lehdonvirta’s (2009) research categorising virtual items as purchasing drivers. This provides a model for categorising virtual goods into three core categories; a) functional, b) hedonic, and c) social. In order to apply this model to the *League of Legends* context, the items available for purchase within the game are categorised according to their attributes. This categorisation directed the design of the questions relating to purchasing drivers in the interview questionnaire. The research question related to play motivation include, but are not limited to Yee’s (2007) publication, which introduced three key motivating factors; a) achievement, b) social, and c) immersion. In addition to these key motivators, the constructs of identity and character attachment are included, utilising Bowman’s (2012) work in addition to others, with gender perception and social norms being based on Eden, Maloney, & Bowman’s (2010) publication.

3.1.2 Research Design

As part of an exploratory mixed methods study, the qualitative research phase involves the use of face-to-face semi-structured interviews as the data collection tool, employing components of both structured and unstructured interviews. This involved the researcher preparing a set of questions based on the research questions which are to be answered by all interviewees, with the understanding that additional questions might be asked during interviews to clarify and further expand certain issues

(Dudovskiy, 2016). This design ensures the questions associated with the research questions are asked, while also giving the interviewer the freedom to develop rapport with interviewees, and further explore interesting topics that may arise during the interview process. Additionally, semi-structured interviews enable the collection of rich data, with the language used by interviewees contributing to the meaning, authenticity of their perceptions, and greater insight into their relationships. Semi-structured interviews are also particularly useful when exploring the views of a person toward something (Galletta, 2013).

This method was chosen over structured interviews, due to the fact that structured interviews had the potential to limit the extent to which a topic may be explored, and the researcher believed that the rapport afforded by semi-structured interviews would be important in helping interviewees relax and respond as honestly and openly as possible. This is partially due to *League of Legends* players being of a younger demographic (Riot Games, 2012), where rigid questioning may make interviewees uncomfortable. Case studies were an option, as this method is a common exploratory method for qualitative research, and enables rich data collection over a period of time. However, in this case, the rapid changes in the game environment itself meant that comparability of data across cases could be problematic if any of the case studies began and ended at different times. This is due to regular ‘patches’, or updates in the game, which can significantly change the game design. Therefore, data is ideally collected from all participants at a similar time, within the time of one or two ‘patches’ to reduce irregularity in the game’s environment. To mitigate this problem, face-to-face semi-structured interviews were chosen and conducted over a short period of time.

3.1.3 Context of the Study

The study was carried out across New Zealand and Australia, with the sample population being individuals who play or have played the MOBA game, *League of Legends*. These participants are familiar with the game and are able to understand the game-specific topics being explored.

3.2 Procedure

The process of attracting League of Legends players for interview participation was simple, with eager participants being found via word-of-mouth amongst an extended network of acquaintances and game players. The finalised group of interview participants included players with a variety of skill levels, experience levels, ages, ethnicities, and levels of education, whilst also providing adequate gender representation. The goal was to collect data from a diverse demographic of the *Oceanic League of Legends* community.

In order to ensure ethics responsibilities were met across the entire mixed methods study, the researcher submitted an Ethics Approval request which enveloped both qualitative and quantitative phases of the study to the University of Waikato's Management School's Ethics Committee. Following acceptance, careful adherence to the ethics code required each participant to read the approved Information Sheet describing the purpose of the study, and sign the Consent Form, which ensured interviewee privacy, anonymity, and the ability to opt out until a given date. Each interviewee signed and returned these forms before the interviews commenced.

The researcher and supervisor discussed the sample size at length, agreeing that several pilot interviews needed to be conducted before proceeding to data collection. Based on the detail of the questions and depth of the study, a sample of ten participants was expected to be adequate to achieve theoretical saturation. A meeting between the researcher and supervisor was held after data collection finished, to determine whether theoretical saturation had been reached. The data collected was deemed sufficient.

The data was collected over a two month period, involving a series of in-depth semi-structured interviews conducted both face-to-face and via video-calling platforms. These interviews were audio-recorded for manual transcription.

3.2.1 Data Collection Instruments

A semi-structured protocol was used to collect data relating to the research questions. This instrument was designed to collect demographic information such as age and gender, as well as collect information on the interviewee's purchasing habits and preferences for in-game items. Information regarding the interviewee's perception of virtual goods, their views and beliefs pertaining to various play motivations, and their perception of gender and identity within the research context was also collected.

3.2.3.1 Pilot Interviews

Two pilot interviews were conducted in order to ascertain the suitability, clarity, and thoroughness of the proposed semi-structured interview tool. The questions asked in the pilot interviews are shown in Appendix B.

The outcomes of these interviews resulted in a number of recommendations from the pilot interviewees. The addition of the following questions was suggested:

- Number of years spent playing *League of Legends*
- Regularity of play per week
- Total amount of money spent on RP
- Has the participant given or received gifts through the game

These demographic questions were deemed necessary in order to ascertain the level of play experience for each participant, as well as the total amount of money they had spent on the game. Gifting was a part of the game that was not initially included in the pilot interviews, but added when a pilot interviewee suggested it. It was also suggested that the 'rank' of the player be included in the demographic section, however one pilot interviewee revealed that they would be likely to respond dishonestly to the question if it were asked. Therefore, it was decided that player rank data be collected via a trustworthy third-party application which is accessible to the

public and located at www.oce.op.gg. This application provides up-to-date statistics on all *League of Legends* accounts directly from the Riot Games database. The practice of third-party data collection is clearly outlined as a clause in the Consent Form to fulfil ethics requirements. This decision was made in order to ensure consistent validity of the data. The recommendations from the pilot interviewees were accepted.

Additionally, two questions were removed from the list of interview questions, as shown below:

- Do you think that because you're a male, you might play a more aggressive role?
- Do you think that because you're a female, you play a more passive role?

Pilot interviewees described *feeling uncomfortable* with the questions and both explained that they felt the question was irrelevant. Following approval by pilot interviewees, the finalised version of the semi-structured interview tool was confirmed (refer Appendix C).

3.3 Thematic Data Analysis

After the completion of the pilot interviews, ten semi-structured interviews were conducted. The following table illustrates demographic and play activity information for each interviewee, in order of interview conduction.

Table 1. Interview participant demographic information

	Name	Gender	Experience	Hours played per day	Preferred role	Purchase volume (NZD)	Rank
1	Nzgunner	Male	5 years	2-3 hours	Multiple	\$600 - \$1,000	Gold
2	Leandoer	Male	6 years	N/A	Multiple	\$1,000 - \$2,000	Gold
3	ruhsa180	Male	5 years	3-6 hours	Bot	Up to \$100	Unranked

4	The Danger	Male	6 years	6-8 hours	Mid	\$600 - \$1,000	Gold
5	ALLNatty	Male	5 years	8+ hours	Top	\$300 - \$600	Platinum
6	Chiiibby	Female	2 years	1 hour	Support	Up to \$100	Unranked
7	blig	Male	3 years	8+ hours	Jungle	\$0	Silver
8	KrisPBacon	Female	3 years	8+ hours	Multiple	\$200 - \$300	Silver
9	Favouritism	Female	1 year	1 hour	Bot	\$200 - \$300	Bronze
10	jayd	Male	5 years	6-8 hours	Mid	\$7,000 - \$8,000	Platinum

Six of these interviews were carried out face-to-face, and four (3, 6, 8, and 9) were conducted via video-calling using the application, Skype. Two participants were located in Australia, and eight were located in New Zealand. Three participants identified as female, and seven identified as male, with one participant being in high school, eight being University students, and one being in fulltime employment. Participants represented a variety of ethnicities, with New Zealand European, Australian, Pasifica, Maori, and Asian backgrounds.

All interviews were recorded with an audio-recording software and manually transcribed verbatim by the researcher. The decision to use verbatim transcription and quotes was based on the work of Corden and Sainsbury (2006), who describe the benefits of this technique, including the ability to provide extra information, additional understanding and insight, support the points made, whilst also providing data to enable readers to draw their own conclusions. Verbatim quotes also enable research participants to have a voice, giving credibility and authenticity to the research, indicate the balance of opinions, and illustrate the speaker's emotional intensity. It must be noted that verbal tics such as “*um*”, “*er*”, and “*ah*” have been edited out to improve the coherence of the transcriptions, but dialect and non-standard grammar, such as the oft-repeated “*like*” and “*yeah*” have been retained to ensure authenticity and meaning.

Practices regarding the censorship of swear words is a topic surrounded by uncertainty, with dissent over the inclusion of swear words being acceptable in verbatim quotes, or not. It is a common assumption that swear words are quietly

ommitted from most research transcripts (Corden & Sainsbury, 2006). To avoid offending readers or risk stereotyping research participants, swear words within quotations have been replaced with the [expletive] bracket in an attempt to retain meaning and authenticity.

Following manual transcription of each semi-structured interview, the data analysis application *Nvivo* was used to analyse and assist with organising data during the coding process. The data was then refined and organised into themes. This process was quite lengthy due to the length and depth of the interviews, with the transcript below (fig. 6) offering some indication of the quantity of data.

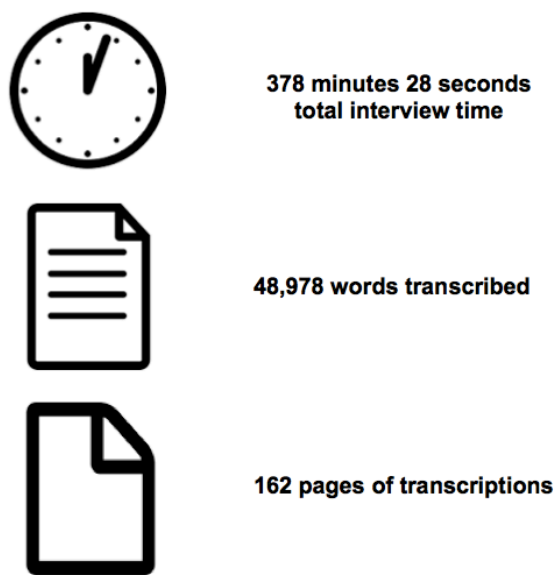


Figure 6. Transcript infographic.

Analysis of transcriptions began with the process of identifying themes within the data. This was relatively simple, as this research is based on *deductive thematic analysis*, where a series of concepts, ideas, and topics are used to code and subsequently interpret the data; essentially, this is achieved through theory-driven coding and analysis (Braun & Clarke, 2012).

As such, many questions asked during the semi-structured interviews were directly related to the theoretical basis behind the research topic. This resulted in data coded

into themes that richly describe various facets of the core research topic. To clarify, the primary research questions consist of both *purchasing habits* and *play motivation* for MOBA game players. These two core topics are described by numerous themes described in Chapter 3.3.1. In addition to purchasing habits and play motivations, questions were also asked regarding player perceptions of gender, identity and social norms within the game. Next, findings of the qualitative data analysis are described.

3.5 Qualitative Findings

This section discusses the key themes and findings identified following analysis of the semi-structured interview transcripts. Firstly, the initial themes are presented, with the basis of the thematic structure being illustrated by raw codes. The number enclosed in (brackets) beside each code shows how many unique interviewees mentioned or referred to each code, with codes ordered from most popular to least popular within each table.

Following presentation of the initial themes, an in-depth thematic data analysis is offered, with excerpts drawn directly from the verbatim interview transcripts. This analysis is followed by the final thematic framework, which synthesises and condenses the data into more manageable themes for development of further research questions.

3.5.1 Initial Themes

The following themes are based on the initial coding of the raw data. These themes are comprised of a collection of meaningful codes drawn from the interview excerpts, to be expanded in Chapter 3.5.2.

Table 2. Initial themes for perception of skin usage

Perception of skin usage	<p>Skins look good (people buy skins in order to look better) (7)</p> <p>It is unique (people buy skins in order to display a different appearance) (6)</p> <p>People buy skins so that they feel more attached to their character (5)</p> <p>You really love a champion so you buy a skin for it (1)</p> <p>People dedicated themselves to a champion through buying a skin (1)</p> <p>People like to see the champion in less clothes (1)</p> <p>It's an individuality thing (1)</p> <p>It makes you feel immersed (1)</p>
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This theme consists of codes which refer to the user's perception of skin usage – or customisation of champion elements – within the game. The 'perception' is not explicitly stated, instead it is implied by the interviewee's comments and interpreted. Interviewees were asked *why they think people play with skins*. This question resulted in a number of interesting replies, with many interviewees stating that skins simply look good, implying that people buy skins to look better. Additionally, the unique factor of customisation through skins also appeared as significant, with a number of respondents stating that they believed people play with skins in order to display a unique appearance or experience the character in a different way. Buying skins to feel more attached or 'closer' to a character also appeared as a significant aspect, with this being attributed to character attachment. One female interviewee stated that if she really loves a champion, she will buy a skin for it, with a male interviewee explaining a similar phenomenon through being 'dedicated' to the champion. Another male interviewee stated that he believed people bought skins in order to see them in less clothes, particularly to sexualise female characters. Being an individual or displaying individuality through using skins, and experiencing immersion through skin usage also appeared as interesting perceptions of skin usage.

Table 3. Initial themes for intimidation through skin usage

Intimidation through Skin Usage	<p>Quantity (the more skins on a team, the higher the level of intimidation due to perception of higher champion mastery) (1)</p> <p>Quality (the better/more expensive the skin is perceived to be, the more intimidation is experienced) (1)</p> <p>Rare skins are more intimidating (ultimate skins or limited edition) (1)</p> <p>Type of champions are intimidating (some champions perceived as more intimidating than others) (1)</p>
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This theme consists of codes which refer to the user experiencing intimidation as a result of an opponent displaying a skin during a game. The ‘intimidation’ aspect is not always explicitly stated, instead it is implied by the interviewee’s comments and interpreted as such. Interviewees were asked *if they expected someone to play better if they have a skin* and *if a player in load screen displays a skin, does their perception of the player change*. These questions revealed answers that were relatively consistent, with many interviewees stating that they experienced feelings of intimidation if the opposing team displayed a large number of skins, as they explained that players using skins are expected to have some level of champion mastery if they use skins. This is coded into quantity, as the level of intimidation experienced increases as more opponents display skins. Additionally, the more expensive the skin is, the more intimidation is experienced. This same feeling applies to rare or limited edition skins, as the quality of the skin appears to directly impact the intimidation experienced. Interestingly, one interviewee described feeling more intimidated by certain champions, in addition to experiencing intimidation as a result of skin usage.

Table 4. Initial themes for skin selection drivers

Skin selection drivers	<p>I buy skins because the character feels different (7)</p> <p>I buy skins because the character looks good (7)</p> <p>I buy skins because I want to display rare items (3)</p> <p>I buy skins because they sound powerful (2)</p>
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	I buy skins because I support an e-sports team (2)
	I buy skins because they are favourite colour (2)
	I buy skins because they improve the way I play (2)
	I buy skins because they are intimidating (2)
	I buy skins because I want to personalise my character (2)
	I buy skins because they are beautiful (2)
	I buy skins because I want to show individuality (1)
	I buy skins because they are cute (1)
	I buy skins because they reveal/sexualise female characters (1)

This theme consists of codes which refer to the user's motivation to buy skins and what factors influence their decisions to buy skins. The 'selection drivers' are not explicitly stated, instead they are implied by the interviewee's comments and interpreted accordingly. Interviewees were asked *what their favourite champion skin is and why*, as well as *if there is any skin they'd like to buy and what they like about that skin*. The results of this showed that looking different and looking good were primary skin selection drivers, with the desire to own and display rare items also being important. The sound affects displayed by specific skins were also cited as selection drivers, with several interviewees explaining that they purchased skins with the branding and themes of their favourite e-sports teams, to show their support. Two interviewees stated that they played better when using specific skins, and intimidating others through using specific skins also appeared as a factor. Personalising a character and showing individuality were also skin selection drivers, with the beauty of skins and them being 'cute' also being cited as important drivers. Additionally, revealing or sexualising female characters through buying skins that 'showed more skin' was a factor that one interviewee described.

Table 5. Initial themes for rune page purchases

Rune page purchases	I have purchased rune pages (4) I have not purchased rune pages (3) Rune pages help me play better (3) I don't need rune pages (1) Rune pages give a technical advantage (1)
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This theme consists of codes which refer to the user's motivation to buy rune pages and what factors influence their decisions to buy skins. Interviewees were asked *if they had purchased rune pages*, and *why* or *why not*. The results of this showed mixed responses, with the general perception of those who had purchased the item stating that it helped them play better, and offered a technical advantage. One respondent stated that they didn't need rune pages, with female interviewees being less likely to have purchased rune pages.

Table 6. Initial themes for boost purchases

Boost purchases	I have purchased boosts (5) I have not purchased boosts (4) I wanted to get to level 30 (3)
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This theme consists of codes which refer to the user's motivation to buy boosts, which are items that increase the experience gained during play, or increase the influence points (IP) gained during play. Essentially, these boosts speed up timers (Hamari, et. al., 2016). Interviewees were asked *if they had purchased boosts*, and *why* or *why not*. The results of this showed that some interviewees had purchased the item, while others had not. There was little discussion of this item, as interviewees did not seem particularly attached to these items, simply explaining the functional value of the item and the desire to level up to the maximum level (30) as the purchasing motivation. Female interviewees were less likely to have purchased boosts.

Table 7. Initial themes for champion purchases

Champion purchases	I have purchased champions with RP (5) I have not purchased champions with RP (2) It was a waste of RP (2) I bought all my champions with RP (1)
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This theme consists of codes which refer to the user's motivation to buy champions, and what factors influence their decisions to buy champions with RP. Interviewees were asked *if they had purchased champions with RP*, and *why* or *why not*. Interviewees offered little expansion on their decision to purchase champions, even when prompted. There were mixed responses revealing those who had and had not purchased this type of item, with two respondents revealing that they regretted their decision to spend RP on champions. One respondent revealed that he had purchased all of the champions with RP when he first started playing the game, and that he still perceived this as a positive decision.

Table 8. Initial themes for gifting

Gifting	I have given gifts (5) I have received gifts (6) I give gifts to maintain online friendships (2) I have not given gifts (1) I regularly give and receive gifts (1)
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This theme consists of codes which refer to the user's motivation to gift items within the game. Interviewees were asked *if they had given gifts*, and *if they had received gifts*. Results showed that many respondents had both given and received gifts, with the two describing giving gifts via the game as a way to maintain online friendship.

One respondent had not given gifts, while another described regularly giving and receiving gifts.

Table 9. Initial themes for identity and character attachment

Identity and character attachment	<p>I do not identify with my character (8)</p> <p>My favourite character doesn't reflect anything about myself (7)</p> <p>I do identify with my character (3)</p> <ul style="list-style-type: none"> • My favourite character reflects my size because I am small (1) • My favourite character reflects my size because I am large (1) • My favourite character reflects something about my personality (1)
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This theme consists of codes which refer to the user's perception of identity and character attachment. Interviewees were asked *if they select their champions to reflect something about themselves*, and *if they think their favourite champion reflects something about themselves*. Eight participants stated that they did not select their champions to reflect anything about themselves, with seven stating that their favourite champion also did not reflect their identity or personality. Three participants were able to identify elements of their favourite characters that they believed may reflect on themselves, with large size, small size, and a destructive personality being cited as possible reflections.

Table 10. Initial themes for gender and social norms

Gender and social norms	<p>Gender has no influence on the champions that I select (8)</p> <p>I might be more likely to play female characters (2) (female)</p> <p>I might be more likely to play female characters (2) (male)</p> <p>Female characters are more complex than male characters (2)</p> <p>Females more likely to play passive role:</p> <ul style="list-style-type: none"> • Agree (1) • Disagree (6) • Undecided (1)
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	<p>Males more likely to play aggressive role:</p> <ul style="list-style-type: none"> • Agree (2) • Disagree (2) • Undecided (2) <p>Females get harassed in the game (1)</p>
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This theme consists of codes which refer to the perceptions of interviewees regarding gender and social norms. Interviewees were asked *if they were more or less likely to play a champion with the same gender as themselves*, or *if gender had any impact on champion selection*. Additionally, interviewees were asked if they expected males to play more aggressive roles, and females to play more passive roles, as a way to gauge the social norm within the game. Results showed that gender was not a factor that influenced champion selection, although two female players and two male players explained that they might be more likely to play female characters, partly because they believed that by design, they were more complex and fun to play than male characters. When asked if they thought females were expected to play passive roles, only one participant agreed, with six disagreeing, and one remaining undecided. When asked if they expected males to play an aggressive role, the responses were less clear, with a mixed result. One interesting and concerning factor that emerged was the observation by one participant that female players risked being harassed during games if their real gender was discovered.

Table 11. Initial themes for teamwork

Teamwork	<p>I enjoy helping other people in the game (8)</p> <p>I think teamwork is necessary to win (4)</p> <p>I enjoy being a leader (2)</p>
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This theme consists of codes which refer to the user's motivation to participate in teamwork-based activities, and if teamwork is perceived as important to them.

Interviewees were asked *if teamwork is important to them*, and *if helping and encouraging others is important to them*. Responses showed that helping other people in the game was important to most players, with the desire to win as a result of teamwork proving important to four interviewees. Two participants explained that they liked being the leader of a team.

Table 12. Initial themes for meta-game rewards

Meta-game rewards	Teamwork (6) Helpful (1) Honourable Opponent (1)
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This theme consists of codes which refer to the types of meta-game rewards received by players. Interviewees were asked which type of Honour they accumulated the most often. A variety of different Honour were described, with teamwork being the most popular, and one interviewee citing helpful as their most commonly received Honour, and another citing Honourable Opponent as their most commonly received Honour.

Table 13. Initial themes for chatting

Chatting	I sometimes flame or rage at other players (4) I enjoy banter (2) I chat about teamwork and gameplay aspects (2) I don't chat, I use 'pings' only (purely gameplay, not social) (1) I use the chat to talk with friends (1) I use the chat to make friends (1)
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This theme consists of codes which refer to the user's perception of chatting and chatting activity. Interviewees were asked *if they often used the in-game chat*, and

why or *why not*. Interestingly, results showed that four participants primarily used the in-gae chat to flame or rage at other players. Two described ‘banter’ as their primary chat topic, while another two stated that they used the in-game chat to communicate game play strategies with team mates. One interviewee stated that they used the in-game chat to talk to the friends they were playing with, while another described makin friends via the in-game chat. One participant stated that they didn’t use the in-game chat at all, and instead communicated via strategic ‘pings’.

Table 14. Initial themes for video-calling

Video-calling	<p>I use video-calling with my friends only (6)</p> <p>I use video-calling to keep in contact with friends while I play (2)</p> <p>I use video-calling with other players to formulate strategy (1)</p>
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This theme consists of codes which refer to the user’s video-calling activity whilst playing the game. Interviewees were asked *if used video-calling while playing the game*, which was expanded to include voice-calling applications such as Discord. Most participants described video-calling with their friends only, with two further describing this activity as a way to socialise with friends who lived in different locations. One participant stated that they video-called with other players (including those they were not friends with) in order to formulate strategies to win games.

Table 15. Initial themes for online friendships

Online Friendships	<p>I prefer real life friends (7)</p> <p>The game is a way to interact with friends in other cities/countries (6)</p> <p>The game is not a substitute for real life interaction (5)</p> <p>I prefer online friends to real life friends (3)</p> <p>I prefer playing with real life friends, especially when we are in the same room (3)</p>
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This theme consists of codes which refer to the user's perceptions and attitudes toward online friendship. Interviewees were asked *if they preferred to interact with people online, rather than in real life*, as well as *if they considered interaction with others in the game as an alternative to face-to-face interaction*. Responses showed that seven interviewees preferred real life friends and face-to-face interaction, while six believed that playing the game was a way to interact with friends in other locations. Five stated that the game was not a substitute for real life interaction, while three participants had an opposing view, explaining that they preferred their online friends to real life friends. An augmentation of this was the preference to play with real life friends in the same room, described by three participants.

Table 16. Addition and Escapism

Addiction and Escapism	<p>I play to forget problems (7)</p> <p>I play to procrastinate (3)</p> <p>I play to escape (2)</p> <p>I play to waste time (1)</p> <p>I play to release anger/frustration (1)</p> <p>I play the game to feel respected (1)</p> <p>Mood repair: (4)</p> <ul style="list-style-type: none"> • I feel better after playing (3) • I use game to deal with negative emotions (3)
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This theme consists of codes which refer to the user's activities and perceptions related to addiction-based behaviours and escapism. Interviewees were asked *if they occassionally played the game to forget or ignore a real world problem*. This question prompted a surprising amount of discussion during interviews, with seven participants stating that they play the game to forget problems, three stating that they played to procrastinate, two describing 'escape' as their motivation to play, and one interviewee playing to waste time. Releasing anger and frustration through game play

was described by one participant, with one interviewee explaining that they felt respected on the game, in contrast to real life. Four participants described clear mood repair behaviours, where three interviewees felt better after playing, and three stated that they used the game to deal with negative emotions.

Table 17. Flaming behaviour

Flaming	<p>I have flamed (10)</p> <p>I experience reduced enjoyment of the game if flaming occurs (10)</p> <p>I am not the instigator (2)</p> <p>I find it amusing (2)</p> <p>I think people who flame have no empathy for others (1)</p> <p>I want to defend the victims (1)</p>
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This theme consists of codes which refer to the user's participation and response to flaming behaviour. Interviewees were asked *if they flamed other players*, and *if they experienced reduced enjoyment as a result of flaming occurring in a game*. Results showed that all ten participants had flamed during games, and all ten participants also experienced reduced enjoyment as a result of flaming occurring in games. Two participants denied instigating flaming activity, explaining that they had to be provoked to flame. Two participants found flaming amusing or funny. One interviewee stated that they believed people who flame have no empathy for others, and another described a desire to defend the victims of flaming attacks.

Table 18. Initial themes for provoking other players

Provoking other players	<p>I provoke out of retaliation (7)</p> <p>It gives me satisfaction when I provoke others (3)</p> <p>I flash my mastery or dance to taunt/bait opponents (3)</p> <p>I flash my mastery when I die (2)</p>
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	I am able to brag when I provoke others (1)
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This theme consists of codes which refer to the user's motivation to provoke other players. Interviewees were asked *if they provoke other players*, with examples of provocation being provided (*flashing your mastery emote* and *dancing when opponents die*). Responses showed that seven participants would provoke out of retaliation, with three explaining a feeling of satisfaction as a result of provoking others. Three described flashing their mastery and dancing to taunt and bait opponents in different situations, while two stated that they flashed their mastery emote when they die, in an attempt to make themselves feel better about the death. One interviewee stated that provoking others felt similar to bragging.

Table 19. Initial themes for rank and status

Rank and status	Rank is important (6) Rank is not important (2) I have the desire to progress (1) I think rank can be seen as accurate representation of skill (1) I have a fear of not being good enough (1)
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This theme consists of codes which refer to the impact of rank and status on the user's motivation to play. Interviewees were asked *if rank is important to them*, and *why* or *why not*. Six interviewees described rank as being important, with two stating it was not important. One participant described their desire to progress, while another explained that they perceived rank as being an accurate representation of skill. One participant stated that they did not play ranked game often, because they were worried they weren't good enough.

Table 20. Initial themes for mastery and skill

Mastery and Skill	Mastery levels are important (5) Mastery levels are not important (3) I am more likely to play champions that I have higher mastery with (2) I have a desire to accumulate mastery points/levels (2) Mastery is proof of skill (2) Mastery offers prestige (1) Mastery increases status amongst other players (1)
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This theme consists of codes which refer to impact of rank and status on the user's motivation to play. Interviewees were asked *if they had a desire to level up champion mastery*. This question revealed that to five participants, mastery levels are important, while three stated that mastery levels were not important. Two participants described being more likely to play champions that they had a high mastery with. Two participants explained their desire to accumulate mastery points and achieve higher levels, with another two stating that they believed mastery is a proof of skill. One participant described mastery as offering prestige, and another stated that mastery increases status amongst other players.

Table 21. Initial themes for competition

Competition	I play to challenge other players (5) I don't always think about or consider other players (2) I enjoy shutting down trash talkers (2) I enjoy having a fair game (1) I enjoy being better than others (1)
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This theme consists of codes which refer to impact of competition on the user's motivation to play the game. Interviewees were asked *if they tried to accumulate the most kills or carry the game, and if they played for fun or for more competitive*

reasons. Five described playing to challenge others, while two stated that they didn't always think about other players or consider their feelings, often forgetting that a real person was behind their opponent. Two described enjoying the process of shutting down opponents who 'trash talked' them by killing them or winning the game, while one participant stated that the most important thing was a fair game. Another participant explained that they enjoy being better than others.

Table 22. Initial themes for attitudes toward game play

Attitudes toward game play	I think kills are important (6) I think winning is more important than kills (5) Objectives are more important than kills (2) I enjoy impressing others by getting kills (1) I believe in doing your best (1)
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This theme consists of codes which refer to the general attitudes of players toward game play. These codes are extracted largely from unstructured questioning, which revealed interesting attitudes toward game play. Six participants described kills as being most important to their game play, while five stated that winning a game gave them more enjoyment than having a lot of kills. Two participants believed that objectives are more important than kills, with one explaining that impressing others by accumulating a lot of kills was important. One participant stated that 'doing your best' was the most rewarding way to play.

Table 23. Initial themes for dominating others

Dominating others	I do play to dominate others (6) I do not play to dominate others (2)
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This theme consists of codes which refer to the user's motivation to buy rune pages and what factors influence their decisions to buy skins. Interviewees were asked *if they played to assert dominance over other players*. Six participants responded positively, while two denied dominance as a motivator.

Table 24. Initial themes for exploration

Exploration	<p>I don't think exploring the map is a motivator (10)</p> <p>The map is strategic, not explorative (10)</p> <p><i>League of Legends</i> is different to MMOs (2)</p> <p>Exploring other game modes (rotating game modes) are fun (2)</p> <p>Exploring other game modes (rotating game modes) are boring (2)</p> <p>I appreciate themed/seasonal changes (snow map, blood moon map) (2)</p>
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This theme consists of codes which refer to impact of map exploration on the user's motivation to play the game. Interviewees were asked *if they played to explore the map*, and *if they enjoyed exploring other game modes within League of Legends*. Interestingly, all ten interviewees stated that they don't think exploring the map is a motivating factor, with all ten instead stating that the map is strategic to them, rather than an environment to explore. The perception of other game modes was mixed, with two perceiving these as fun, and two perceiving these as boring. Seasonal changes to the Summoners Rift map were welcomed by two interviewees.

Table 25. Initial themes for finding objects

Finding Objects	<p>Finding objects is not a motivator for me (10)</p> <p>Finding objects is a mechanic within the game (10)</p>
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This theme consists of codes which refer to impact of finding objects within the game on the user's motivation to play. Interviewees were asked *if finding objects was a*

motivator for them, with examples of *Bard chimes*, *Skarner crystals*, and *jungle plants* as objects within the *League of Legends* map. All ten interviewees stated that finding objects was not a motivator for them, and all ten described the objects as mechanics within the game.

Table 26. Initial themes for character lore

Character lore	<p>Champion lore is not important to me (5)</p> <p>Champion lore is important to me (4)</p> <p>I wish for better lore (4)</p> <p>Character lore is boring and time consuming (3)</p> <p>I wish for a tangible benefit from learning lore (2)</p>
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This theme consists of codes which refer to impact of character lore on the user's motivation to play. Interviewees were asked *if the champion lore was important to them*. Responses revealed mixed results, with five participants stating that lore was not important to them, four stating that it was important to them, and four explaining that they wished for better champion lore. Three described lore as boring and time consuming, with two participants suggesting a tangible benefit within the game be offered to those who knew the lore.

3.5.2 Thematic Data Analysis

Following the previous overview of initial themes, this section offers an in-depth, intimate glimpse into each theme, with discussion illustrated by excerpts from the interview transcripts. This analysis aims to connect the thematic data with the theoretical basis of this study. The summoner name of each interviewee is enclosed in *{brackets}* for clarity.

Perceptions of Hedonic Items

Items identified as having hedonic – also known as *hedonistic* – attributes, are those that are purely aesthetically or aurally pleasing to the user, valued solely for the altered appearance given to characters, weaponry, or environmental aspects (Lehdonvirta, 2009). From this literature, the key themes behind hedonic item purchasing drivers are *being different*, *personalising content*, *making characters more attractive*, and *supporting an e-sports team*. The theme of *being different* is a strong driver, with one participant {chiiibby} explaining that having a skin for a champion makes it feel like it is a different character altogether:

“I like to make it my own, knowing, like, say there’s another Zilean on the enemy team but they’ll be Bloodmoon Zilean [and I’ll be Groovy Zilean], I look at them as a different champion to me, rather than the same champion with a different look.”

Another participant {nzgunner} discusses his favourite skin, and explains why he likes it.

“It changes his whole theme. It doesn’t really resemble his character at all, lots of new effects, sound effects. Everything just sounds more powerful”.

The *difference* or *change in theme*, between the base champion skin and the skin that the player has bought appears to be a huge driver. One participant {KrisPBacon} states that skins allow “a little bit of a difference in the game when you verse people. The recalls and stuff like that, I guess make the game a bit more fun”. Another participant {Favouritism} echoed this sentiment with “I play with skins because they look nice, because the classics are dull and boring, so I buy skins for that reason,” and “if you have multiple skins, you’re not seeing the same particle effects over and over again. It’s still [holding] your interest in the game [and] the skins make me want to play”. Additionally, the *change in sound* {Leandoer, nzgunner} is a driver repeatedly

cited as an important part of using a skin. This augmentation of appearance and sound firmly cements champion skins as hedonic items.

Personalising content is another important hedonic item purchasing driver, which is enabled through the usage of skins for champions, ward skins, and Summoner icons. One participant {chiibby} explains,

“I like to make it my own. Elementalist Lux, you can make that one your own, a lot of people own the skin now, but you can change it. I feel like I’m making it my own when I look different or [when] everything is customised to me, I look at it very differently. I’ve made a different impact on this!”

Another participant {ALLNatty} explains, “it’s a change from the traditional. It’s just more personalised, so changing it can motivate you to play the champion and play the game”.

Making characters more attractive is another important theme, as described by one participant {Leandoer},

“Skins though, those were something that helped me branch out and select other champions, because even if their default skin doesn’t look [attractive], I can still make them look the way I want them to look.”

The simple trait of making things *look good* or *more attractive* is a popular reason behind participants favouring specific skins. One participant {TheDanger} says “I just pick the best-looking skin”, with another participant {ALLNatty} also stating that “it just looks cool”. A female participant {Favouritism} explains that Lunar Wraith Caitlin is her favourite skin, because “it’s pretty” and “it’s got the colours I like”. Finally, another {jayd} states that his favourite champion is Zed, with Shockblade Zed being his favourite skin because “I love that champion, yeah, and it looks cool. Visually appealing”.

Supporting e-sports is an interesting driver, where *branding* influences the hedonic value of an item (Lehdonvirta, 2009). For *League of Legends*, players are able to purchase themed champion skins and Summoner icons based on the *branding* and designs of professional e-sports teams. These can be a great source of pride for players, who may fiercely support their favourite teams. One participant {*Ruhsa180*} explains,

“I always purchase [...] my favourite teams of the League Championships, I’d always buy the TSM [summoner] icons, I’m pretty sure a little bit of the money goes toward them, or at least goes toward the competition, so you know. I felt like I was supporting the [competition] by doing that.”

The concept of supporting e-sports and the professional teams is a consistent theme. When asked if he’d purchased Summoner icons, another participant {*TheDanger*} stated,

“Only when the World Championships are on, and then I feel like I have to buy them because this is the only sport I watch. SKT because they always win, and always the the wildcards. And whenever there’s a wildcard team that I really like, even though I know they’re going to lose, I’ll always buy one [summoner icon] for them.”

This statement illustrates the importance of displaying the branding of a favourite team. Another participant {*ALLNatty*} also reported purchasing branded content.

“The professional teams bring out icons with the name on it, and I was supporting a team in one year and another team in another year, and it was Fnatic and Origen [...] I bought the summoner icons for that.”

Supporting professional teams is a popular driver for players, many of who avidly follow the professional e-sports scene. The global *League of Legends* e-sports scene encourages competitive play amongst players, where e-sports team managers may approach players who reach the Challenger tier to play professionally.

Perceptions of Social Items

The key themes behind social item purchasing drivers are *ownership of rare items*, *improved social status*, and *intimidation*. Rare items can be described as those that are of a limited edition and only sold at certain times, and what are known as ‘Ultimate skins’ in *League of Legends*. These are most valuable skins available, each costing 3250RP, which equates to approximately NZ\$29 each. They display superior animations and sound effects, with only four Ultimate skins existing; Elementalist Lux, DJ Sona, Spirit Guard Udyr, and Pulsefire Ezreal (fig. 7).

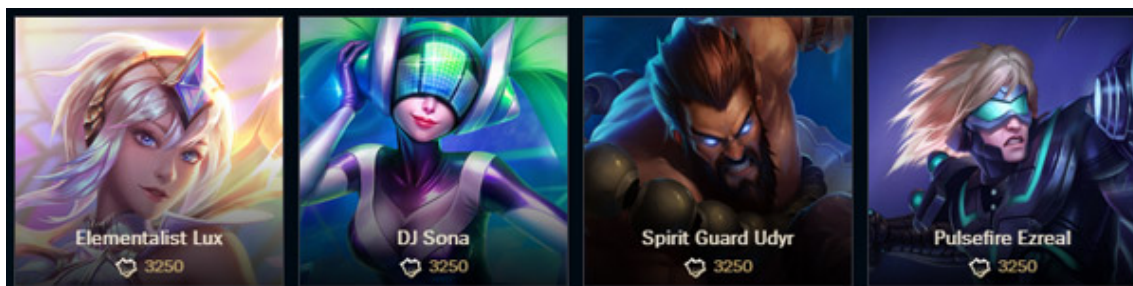


Figure 7. Ultimate champion skins (Lol-Smurfs, 2017).

These are quoted as being the favoured skins of several participants. One participant {chiiibby} says, “I would say Lux is my favourite champion because of the Elementalist skin”. Another participant {Leandoer} explains,

“If its like a really rare or cool skin then I’m like ‘wow I want to get that!’. If you see one that you can’t get anymore or something, like from really early on, you’ll be pretty amazed.”

This statement explains the status and prestige that rare and limited edition items gain over time. Another participant {RuhSa180} describes *rarity* as a factor behind Headmistress Fiora being his favourite skin,

“Because it’s a limited time skin, I love having it. Because other people can’t buy it all the time, it’s more valuable.”

Owning valuable, limited edition, discontinued, or rare items contributes to *improved social status*. An interesting theme is the fact that these skins prompt feelings of intimidation in other players. Participants were asked if their perception of an opponent changed if they could see that they had a skin in the loading screen of the game. Participants reported assuming that the player has a high champion mastery. One participant {nzgunner} explained:

“Quite often [...] you do expect someone [the person with the skin] to play better”, because “you just have this psychological thing where you feel like ‘oh [expletive] they have a skin, they play this champion all the time’.”

This sentiment was reflected in other participants responses: “if you see a player with a skin, you kind of expect they’ve at least played that champion a bit” {Leandoer}; “I think it’s more intimidating if people have skins on, you’re like ‘oh [expletive], they must actually be alright” and “in loading screen, you just assume that he has [mastery], you know” and that “maybe they feel they have the right to buy a skin, because they have so many mastery points” {blig}. Another participant {Favouritism} states, “generally it means that this player has experience with this champion and that’s why they have a skin”. Another participant {RuhSa180} explains, “they’ve obviously had a lot of experience, they’re willing to invest their own money into it”, and that when you play with a skin, “you’re trying to put on this image that you’re good with this character, you’re putting out there that you’ve invested money into this” and “you’re going to want to show off and have the best kill/death ratio”.

Another perception is that the more expensive or rare the skin, the higher the level of intimidation that is experienced. If the opposing team had more than one player using a skin, the participants also reported feeling more intimidated. Interestingly, the champion that the player had selected also had an impact on the level of intimidation, with one participant {*chiibby*} explaining,

“I’m a bit more intimidated, if it’s, Rengar, Zed, Talon, or Yasuo, if it’s an assassin and they have a skin. [...] A Soraka with no skin, I wouldn’t be as intimidated by her.”

This comment implies that champions that are strong in the current ‘meta’ are more likely to prompt feelings of intimidation, than champions that are not perceived to be as strong.

Perceptions of Functional Items

Functional items provide the user with a technical advantage, such as increasing power, or otherwise improving the ability of the user to play or advance in the game (Lehdonvirta, 2009). The key themes behind functional item purchasing drivers are *statistical advantage*, where the sole purpose of purchasing functional items (champions, boosts, or rune pages) was to gain an advantage over other players. One participant {*ALLNatty*} explains,

“It’s the only thing that actually benefits you.”

This statement briefly sums up the reason behind players purchasing functional items. Interviewees did not elaborate on their reasoning behind purchasing functional items, beyond acknowledging whether they had or had not purchased them.

Achievement Motivators

The key themes behind achievement motivators are *rank and status*, *mastery and skill*, *competition*, and *domination*. Six participants describe *rank and status* as being important, and two participants describe it as being unimportant. The desire to progress is cited as being a motivator by one participant {KrisPBacon}, who explains,

“I mainly play ranked [...] I have a lot more fun in ranked than I do in normal games. I don’t know why, maybe just the achievement from winning. It feels better than in normal games [...] in ranked you’re actually getting better.”

Another participant {Favouritism} describes ranked games as being unimportant to her, with fear of not being good enough as the reason behind her attitude. She explains,

“I know I’m going to be forever stuck in Bronze [laughter].”

Another participant {Leandoer} describes the ranked system as an accurate representation of skill.

The theme of *mastery and skill* stemmed from asking participants if leveling up champion mastery or accumulating points was important for them. Five stated that it was important to them, and three said it was unimportant. Two participants explained they would be more likely to play champions they had accumulated a high number of mastery points. One participant {blig} describes the prestige that is associated with having high champion mastery, saying,

“I know for a fact that if you get into ranked games, people look up your profile and if you can show you have 200k mastery [points] on Lee Sin, for example, and Lee Sin is the character you chose in the game, they’ll be like ‘oh [expletive] he’s got so many points, he’s going to be really good’.”

Another participant {ALLNatty} explains that the level of mastery is not important for him, but instead the individual skill that he has on the champion.

“For the champion rank I never really cared too much, but I did care about actually getting better with that [champion] and I could tell when I was getting better. [It was about] individual skill.”

Another participant {jayd} explains how champion mastery “count[s] a lot toward how people look at you”, describing how mastery and skill affects the perception of *status*.

Competition is a strong motivator for *League of Legends* players, with five participants stating that challenging other players was a motivator for them. Two participants explained that they didn’t really think about other players or consider that their opponents were other people, which could represent a lack of empathy. An interesting motivation was the desire to ‘shut down trash talkers’, which was a motivator that two participants described {blig; KrisPBacon}. The desire to *have a fair game* and *be better than others* is also important throughout the competition theme.

Dominating other players is related to competition, where six participants said that they attempted to dominate others, and two said they did not. Domination was closely tied to impressing others and being better than other players, as well as ‘shutting down trash talkers’. There are clear similarities between competition and domination.

Social Motivators

The key themes behind social motivators are *chatting* and *video calling*, *online friendship*, *gifting*, *teamwork*, and potentially *meta-game rewards*. *Chatting* was a popular theme, with key themes including *talking with friends* and *making friends*, as a participant {nzgunner} states,

“If I’m with a group of people or a friend or two, I’ll more than likely to [chat].”

Discussing gameplay aspects is also an important part of *chatting*, as a participant {chiiibby} describes,

“I like to communicate with my team, so I know what they’re doing and know what the plan is.”

Another element is *banter* – or joking talk – which participant {TheDanger} explains is a popular chat activity. Interestingly, flaming and raging at other players was also described as a popular theme for *chatting*. *Video calling* is an activity that players often participate in, with applications such as Skype and Discord being cited as most popular. A common practice for *video calling* is to use video or voice calling applications to talk to people while playing the game, particularly to formulate strategies.

Participants are much more likely to video call friends, and unlikely to video call strangers. *Online friendship* is another important theme, where participants reported that the game functions as a way for them to interact with friends who live in other cities or countries. Seven participants stated that they preferred real life friendships to online friendships, and three participants stated that they preferred online friends. One participant {chiiibby} explained,

“It’s easier to talk to people online because you can kind of forget about your life, if anything bad has happened in your day, you can close off your personal life and you’re just on a computer more focussed on something else”.

Another participant {blig} has a different perspective, saying,

““They don’t know your past life, they only know who you are now, and they make decisions based on how you are”.

Five out of ten participants believe that the game is not a substitute for real life interaction, and three explained that they would prefer to play with real friends in the same room. These findings are interesting, as the line between online and real life interaction appears blurry. A participant {*blig*} explains,

“[A friend] will come around and bring his laptop and we’ll sit there and play, and we’ll talk in the game. We’re right next to each other, and we’ll talk in game and look at each other and [laugh], do you know what I mean?”

Gifting is described as a regular occurrence, with seven participants stating that they had either given or been given items within the game. Players can only gift items to people they have added as a friend on the game, and the practice of giving and receiving is a regular occurrence. A participant {*TheDanger*} describes gifting in a unique sense,

“For a while my flatmates and I were using skins as essentially a currency.”

The concept of using *League of Legends* items as a form of currency between friends is interesting. Another participant {*chiiibby*} explains she receives RP from friends and family as Christmas and birthday presents.

Teamwork is another important theme, with eight participants stating that helping other people is something they often do. Four participants believe that teamwork is necessary to win, and two participants {*ALLNatty*; *jayd*} explained that being the leader was an important part of their contribution to the team.

The *meta-game reward* system for *League of Legends* is an Honour system, which rewards good behaviour through nomination by peers. In the post-game screen, players are given the option to honour teammates with ‘friendly’, ‘helpful’ or ‘teamwork’ qualities, or ‘report’ them for behaviour that breaks the Summoner’s Code. There is also the option to honour players on the opposing team with the ‘Honourable Opponent’ quality. The Honour that a player receives become visible on

their account profile page and can be seen by anyone that views the profile. Honour can be a source of *status* and *social achievement*. For example, shown below (fig. 8) is a participant's {KrisPBacon} Honour panel (L-R; friendly, helpful, teamwork, honourable opponent), which illustrates that the participant has received a large number of 'Teamwork' Honours.



Figure 8. Meta-game rewards Honour display. (League of Legends client)

To gauge how many players paid attention to the *League of Legends* meta-game reward system, participants were asked what Honour they receive most frequently. A variety of responses showed that 'teamwork' was the most common Honour. However, it must be recognized that this path of questioning only gave limited information. Further questioning should be conducted to discover the player's perception of Honour and discern if Honour is valuable to them or not.

Antisocial Motivators

The key themes behind anti-social motivators are *provocation* and *flaming*. Participants were provided with examples of provocation, such as 'flashing champion mastery' or 'dancing when your opponent dies'. The responses were interesting, with seven participants stating that they would only provoke other players if they had first experienced provocation from their opponent, and would only provoke in retaliation. One participant {Ruhsa180} explains the situation concisely,

"I won't initiate it. I'll do it if I have been provoked. If I was provoked, then yeah I would do it, but I wouldn't start."

Two participants reported that they would flash their champion mastery emote when they died, in order to offset some of the irritation that they experienced after being

killed. A participant {ALLNatty} described “taunting” or “baiting” others as something that he would do to encourage the enemy to make a mistake.

It should be observed that the 100% positive response for having participated in *flaming* shows that this motivator may be connected to low levels of immersion that players may experience in the game. Literature shows that anti-social behaviour is most prolific in low-immersion environments (Paul, Bowman, & Banks, 2015). This relationship may explain the high occurrence of flaming and provocative behaviour within MOBA games, depending on the level of immersion that players experience.

Immersion Motivators

The key themes behind immersion motivators show that *lore*, *escapism*, and *mood repair* are highly positive themes based on interviewee responses. *Lore* provides the background story for the *League of Legends* champions, with short stories providing contextual explanations of how the champions acquire their abilities. Five participants reported that the lore is not important to them, and four reported that it is important to them. Four participants expressed disappointment in the lore and a desire for it to be more complex, while three described it as “boring” {chiiibby} and “time consuming” {KrisPBacon}. One interesting concept was the suggestion {Ruhsa180} that a tangible benefit within the game be provided to those who have knowledge of the lore.

Escapism in this context occurs when people play a game to forget or ignore a real world problem. All participants admitted to playing the game to forget or escape real world problems. One participant {ALLNatty} described using the game procrastinate real world tasks,

“You’ve got so many studies and you just look at your problems and feel like ‘oh I can’t do this’, and your mate down the corridor says ‘let’s jump on [League of Legends]’ and you’re like ‘oh, okay I’ll do it later’.”

Playing the game to release anger and frustration was also mentioned as a motivator, and others cited playing the game to feel respected, with participant {chiibby} explaining,

“I can actually find people who respect me on here. I actually find it fun.”

This statement indicates a deficiency in the participant’s real life, which they satisfy through the game. Interestingly, this concept relates to mood repair, which can be defined as “a shift in mood state from noxious (negative valence) to optimal (positive valence)” (Bowman & Tamborini, 2013, p. 376). For example, it could be assumed that the anxiety experienced by a participant {ALLNatty} about his studies was alleviated while he played, and that when he went back to his work after a game, he was in a better mental condition to deal with the task. When asked if he played to forget or ignore real world problems, a participant {blig} describes a recent experience:

“Definitely. When I was down in [a city] some [bad] stuff was happening and I just played video games all the time. It made me avoid a lot of things, it kind of made me procrastinate, it kind of didn’t get solved until I moved away and I was around people again. “

When asked if the activity made him happier, he replied,

“It was almost like a drug, it just made me forget about it and I just didn’t care, like I was just in my own little world with my people and we had a mission that we needed to do... and the funny thing was they all had their sort of stuff that they had to deal with as well, but we were like ‘put that all aside, we have a job to do’, you know. We have a higher priority.”

This account strongly indicates some form of *mood repair*, in that the participant used gameplay to shift his focus from a negative situation, enabling him to deal with a bad experience and create a positive outcome. An even more compelling case is described a female participant {chiiibby}, who cites two separate events where she used *League of Legends* for *mood repair*.

“My ex broke up with me and I did not handle that well at all. When my ex left, I played League to forget that he existed and I was focussing on something else, rather than focussing on being sad.”

This participant {chiiibby} goes on to describe a second life event that prompted her to play the game for an extended period of time, practicing a form of *mood repair* in order to deal with negative emotions.

“I found out I wasn’t able to walk anymore because of scoliosis [...] my back is no longer straight, and I had torn the tendons and ligaments in my back. I couldn’t move, so I was basically just existing. I couldn’t do anything and I had no one to talk to because I was just too upset to talk to any of my friends. Playing League kind of blocked out my emotions, I was just focussed on the game, rather than feeling anything. That was kind of my way of coping, I had my online friends to talk to, I had random people in game who I could have a conversation with. They’d say something funny, it would be just one little thing but it made me smile, it made me laugh, which was more than I was feeling at the time.”

It quickly became obvious that in particular, the *online friendships* the participant made during these traumatic experiences had a positive impact.

“It sounds really stupid that I used a video game to kind of deal with [everything]... Like it sounds really sad, but at the same time it’s actually quite helpful.”

Interestingly, two major immersive elements were described as irrelevant to players. Both *exploration* and *finding objects* were met with a negative response, with a participant {blig} explaining a common theme:

““I wouldn’t say exploring the map [is important]... Finding the enemy and putting up wards and making sure that everyone sees [the strategy], that’s more of a drive, rather than just exploring for that roleplay aspect. It’s more like you’re on a mission.”

As such, there is a strong indication that the *exploration* element is not applicable to this genre of game, with a participant {jayd} stating,

“League of Legends is a lot different compared to Skyrim and MMO’s.”

Finding objects as an immersive motivation was also commonly cited as a theme that did not apply to the *League of Legends* context, with a participant {ALLNatty} explaining a common theme,

“I see them as a mechanic.”

The identification of a normally *immersive* element as being *strategic* instead, strongly indicates that these key elements of immersion (Yee, 2007) are not strong motivators for *League of Legends* players, with *achievement* or *competitive* themes being more important.

Identity

The key themes behind identity are *gender*, *character attachment*, and *social norms*. Gender and self-identification is a complex theme, which was broken down into a simple question for participants. When asked if they were more likely to select a champion of their own gender, eight participants out of the ten responded with the statement that *gender has no influence on their champion selection*. One participant {Leandoer} sums up the situation with,

“No, it [gender] doesn’t affect [my decision] really.”

One male participant {blig} explains that whilst his match history might show him playing more male champions, he simply enjoys playing tank champions, which are much more likely to be male than female, and that *the decision is influenced by the character’s abilities*, rather than their gender. This is a theme also mentioned by a female participant {chiiibby}, who explains that she bases her favourite champions off abilities, and they are more likely to be female.

The two participants who said that they *would be more likely to select champions of their own gender* were females, which remains consistent with Bowman’s (2012) finding that females are more likely to self-identify with their character. One participant {KrisPBacon} stated that “I’ve noticed a lot of my mains are girls, but maybe that’s just a biased thing”, and the other {Favouritism} simply explains that she “wholeheartedly agrees” that the champions she plays are more likely to be female.

Interestingly, two male participants reported that they were also more likely to select female champions, with the statement {nzgunner},

“Pretty much all of my go-to champions are females, and quite often it’s the female champions that have more of a skill aspect in them, for whatever reason.”

The perception of *female characters as being more complex than male characters* directly contradicts a lot of criticism over female characters in games being simple, sexualised characters with limited abilities. These findings further reinforce the theme of gender having no influence on champion selection.

Character attachment is a key element in MMO and RPG research, described as “the connection felt by a video game player toward a video game character” (Bowman, Lewis, & Weber, 2008). Participants were asked if they selected champions to reflect something about themselves. Interestingly, the responses were overwhelmingly negative. One participant {*Leandoer*} stated:

“No, not really. I select them on how cool they look, to be honest. I used to [do this] a lot more, and then I guess I got better at the game and realised that you can’t let how a champion looks stop you from playing them, because then you’ll just miss out on a lot of champions and be bad. But definitely when I initially started playing, I’d only chose characters that had cool abilities.”

This statement identifies *appearance* as being a key factor when selecting a champion to play, along with mechanical aspects such as *abilities*, which indicate that play style has an impact on the types of characters that players select. {*ALLNatty*} was quite adamant that there was no connection between his identity and that of the champions that he chose, joking that:

“That would be bad because I pretty much all play [females]... [laughter]. No, I don’t think so. I think I play them because of their kit and potential”.

This statement clearly cites the technical and mechanical aspects of characters as being the primary factor for the participant, with gender having little impact. When asked if her favourite champion Quinn reflected her personality, a female participant {*KrisPBacon*} replied:

“No. Like, it would be cool to be able to have a giant falcon [like what] she has to fly around, but other than that, I don’t think there’s any similarities between us.”

She further added that she *appreciated* parts of the champion’s *design*, but didn’t think it reflected anything about who she was. Another participant {jayd} also stated that while he admired the style of his favourite champion, Zed, he didn’t see any reflection of himself in the champion. This theme of *admiration* or *appreciation of character design* is quite consistent, along with the belief that the participants’ preferred champions don’t directly reflect the player’s identity. Another participant {Ruhsal80} also denied the reflection of himself in the characters he chose. Instead, he stated that he saw character selection as a way to “be someone different” and *experience through the perspective of the character*. Another participant {TheDanger} also denied any reflection of himself in the champions he played, although he did allow that there *could be something in common*, but it wasn’t something he could clearly identify.

Females are typically documented to be more likely to develop character attachment, which was reflected in the fact that two out of the three female participants stated that they are *more likely to play female champions*.

Additionally, one female participant {chiiibby} explained that she liked to play very small characters known as ‘Yordles’ because she felt they reflected a physical attribute, being her own *small size*. A male participant {nzgunner} also identified physical *size* as being a factor that made him identify with his favourite character, Maokai, with this reflection being due to the very *large size* of the champion. Another female participant {Favouritism} felt she could identify with the “*destructive personality*” of one of her favourite characters, Jinx.

Social norms involve the belief that female and male gamers are likely to fulfill gendered social norms when playing games. This involves the perception that female players fulfill more passive, supportive roles, while male players fulfill more aggressive roles.

When asked if they expected females to play a passive or supportive role, one participant agreed, and six disagreed, while one participant remained undecided. This showed that the general consensus was that *females were not expected to fulfill gendered social norms*.

When asked if they expected male players to adopt an aggressive role, such as a bruiser or tank character, two participants agreed, two disagreed, and two were undecided. This illustrated that the perception was widely inconsistent and little conclusion could be drawn from this result.

One participant {TheDanger} raised the issue of the fact that champions, abilities, and roles are very diverse, which results in many different styles of play in every position:

“There’s really aggressive supports who do nothing except have aggressive abilities. And there’s midlaners who are very passive, and toplaners who are very passive...”

This statement brings to light the fact that roles are not restricted to any particular style, and allow for many different possibilities. As such, gender roles and social norms appear to have little affect on *League of Legends* players in regard to their choice of character. One statement did raise a serious issue, which was that *female players often experience harassment within the game if their gender is discovered*. A male participant {jayd} explains,

“If [...] your teammates found out that you’re a girl, they’ll give that person [expletive], straight away, no matter what, because you’re a girl. And it’s really [expletive], like it’s so [expletive]. Seriously. Oh, it’s disgusting.”

This element of sexism-based harassment is concerning.

3.5.3 Final Thematic Framework

Following the rich textual analysis provided in Chapter 3.5.3 through the thematic analysis and data narrative in Chapter 3.5.2, the key themes identified have been gathered into a concise thematic framework, as illustrated in Table 27.

Table 27. Final Thematic Framework

Final Thematic Framework	Initial Thematic Coding Framework
Hedonic Item Purchasing Drivers	Being unique Personalising content Making characters more attractive Supporting an e-sports team
Social Item Purchasing Drivers	Ownership of rare items Improved social status
Functional Item Purchasing Drivers	Statistical advantage
Achievement Motivators	Rank and status Mastery and skill Competition Domination/Intimidation
Social Play Motivators	Chatting and video-calling Online friendship Gifting to friends Teamwork Meta-game rewards
Antisocial Play Motivators	Provocation Flaming
Immersion Play Motivators	Belief in character lore Escapism Mood repair

Player Identity	Gender Character Attachment
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This table shows the most important themes, extracted from the initial coding themes described in Chapter 3.5.1 Based on the questions asked during the interview stage, natural themes such as the purchasing drivers for each type of virtual item emerged as influential themes. Hedonic item purchases appeared to be influenced by the desire to be unique, the desire to personalise content, the desire to make characters more attractive, and the desire to support an e-sports team. Social item purchases appear to be prompted by the desire to own rare items and improve social status. Functional item purchasing drivers are quite clear, with statistical advantage being the only notable driver.

Important themes behind each motivational driver also have come to light, with achievement motivators such as rank and status, mastery and skill, competition, and domination and intimidation proved to be important. Social motivators such as chatting and video-calling, online friendship, and gifting items to friends. The concepts of teamwork and meta-game rewards also showed some significance. Immersion play motivators were not as significant as achievement and social motivators, however the importance of character lore and escapism tendencies for immersive motivation did show some significance, with the construct of mood repair appearing as an unexpected and unique factor.

Player identity also proved to be an interesting theme, with unique factors coming to the fore, such as the low impact of gender on champion selection, and the lack of self-identification with characters. Interestingly, only female interviewees showed character attachment traits.

3.5.4 Thematic Analysis Summary

The final thematic framework enables a more concise understanding of how the theoretical frameworks discussed in Chapter 2 apply to the MOBA genre, particularly

within the specific field of *League of Legends*. The data collection and analysis process has enabled a greater understanding of the values, consumer habits, play habits, social activities, and thought processes of *League of Legends* players. Additionally, the common perceptions of *League of Legends* players have been noted, with detailed information regarding character attachment, as well as gender, self-percieved identities and social norms, with addition of the recently recognised construct of mood repair. Section 3.6 outlines the proposed research questions which will direct the next phase of mixed methods research; the designing of the quantitative instrument.

3.6 Research Questions

Based on the qualitative findings outlined in the final coding framework shown in Chapter 3.5.3, the following questions have been developed for the quantitative research phase of this mixed methods study.

RQ1: *Are MOBA players likely to have an antisocial motivation?*

This research question aims to measure the themes of flaming and provoking other players across a large sample to determine the importance and transferability of these factors in relation to the research question.

RQ2: *Are MOBA game players with a social motivation likely to purchase hedonic goods?*

This research question aims to measure the themes of chatting and video-calling, gifting to friends, online friendship, teamwork, and meta-game rewards across a large sample to determine the importance and transferability of these factors in relation to the research question.

RQ3: *Are MOBA game players with an achievement motivation likely to purchase functional goods?*

This research question aims to measure the themes of rank and status, mastery and skill, competition, dominance and intimidation across a large sample to determine the importance and transferability of these factors in relation to the research question.

RQ4: *Do MOBA game players experience low levels of immersion?*

This research question aims to measure the themes of map exploration, finding objects, and escapism across a large sample to determine the importance and transferability of these factors in relation to the research question. Additionally, the likelihood of MOBA game players exhibiting mood repair behaviour must be further analysed across a larger, more representative sample.

RQ5: *Do MOBA game players self identify with their characters?*

This research question aims to measure the themes of character attachment and gender across a large sample to determine the importance and transferability of these factors in relation to the research question.

4. Quantitative Research

A study of the drivers influencing players of Multiplayer Online Battle Arena (MOBA) games to make micro-transactional purchases

4.1 Data Collection

This research examines the drivers behind players of the MOBA *League of Legends* making micro-transactional purchases, looking at what types of virtual items users purchase based on their play motivations. The behavioural habits of MOBA players are further researched based on the qualitative findings from the series of semi-structured interviews outlined in Chapter 3, where immersion is believed to directly impact the level of social and antisocial behaviour exhibited by players. Additionally, the level of self-identification and character attachment experienced by MOBA players is also further researched based on qualitative findings shown in Chapter 3.

The sample for this research came from a population of *League of Legends* players who are members of a number of social media groups dedicated to the game, specific to New Zealand and Australia and limited to those who play on the Oceanic server. The demographic of typical *League of Legends* players are those between 16 and 30 years of age (Riot Games, 2012), which correlates well to the large proportion of social media users who are most commonly between 18 and 34 years of age (Statista, 2017). The generalisability of results will be addressed further in the Limitations section.

Given the research topic of online gaming, an online survey was chosen as an appropriate data collection mechanism to test the research questions. In order to ensure ethics responsibilities were met across the entire mixed methods study, the researcher submitted an Ethics Approval request which enveloped both qualitative and quantitative phases of the study to the University of Waikato's Management

School's Ethics Committee. Following acceptance, careful adhesion to the ethics code required that each respondent be given a brief overview of the study to read, along with a link to the full Information Sheet, for those who wanted further information. By proceeding with the online survey, respondents agreed to the terms of the Information Sheet, ensuring respondents privacy, anonymity, and the ability to opt out until a given date. The online survey was distributed via a number of social media posts, where the purpose of the research was outlined and viewers were invited to participate. The post contained a hyperlink to the online survey instrument, which was distributed using *Qualtrics*.

4.2 Survey Instrument

Based on Wright (2006), an online survey was deemed to be the most suitable method for data collection because of the online nature of the field (*League of Legends*), and subsequent online nature of the population. Additionally, the powerful nature of online survey collection software enables increased access to a larger number of respondents, made possible in a short amount of time. For this study, it was important to collect survey responses in a short time period, based on the changeable nature of the game environment and the need to be consistent. The reduced costs of survey collection via online software also suited the needs of this study, with additional benefits such as the reliability of data transfer from the collection software (*Qualtrics*) to analysis software (*SPSS*).

The survey instrument was developed based on the research questions outlined in Chapter 3.6. The intention behind these questions was to ascertain significance between motivational factors influencing the purchasing drivers of Oceanic *League of Legends* players. Explorative questioning was employed to determine behavioural habits and immersion levels of players, as well as antisocial behavioural habits, player perception of identity within the game, and levels of character attachment. A full list of the survey questions is provided in Appendix D.

Research question 1, “*Are MOBA players with a social motivation likely to purchase hedonic goods?*” is addressed through specific questions associated with each type of social motivator. Respondents were asked if they participated in certain social behaviours or related to social motivation factors. These social motivation factors are based on items adapted from previous studies, according to the findings of the qualitative research in Chapter 3. The *social motivation* factors identified through prior qualitative research function as independent variables, with *intention to purchase hedonic items* as the dependent variable. Player behaviour and habits associated with the use of hedonic goods are also explored

Research question 2, “*Are MOBA players with an achievement motivation likely to purchase functional goods?*” is addressed through specific questions associated with each type of achievement motivator. Respondents were asked if they experienced specific achievement motivations or related to achievement motivation factors. These achievement motivation factors are based on items adapted from previous studies, applicable according to the previous findings of the qualitative research detailed in Chapter 3. The *achievement motivation* factors identified through prior qualitative research function as independent variables, with *intention to purchase functional items* as the dependent variable. Player behaviour and habits associated with the use of functional goods are also explored.

Research question 3, “*Do MOBA game players experience low levels of immersion?*” is addressed through questions pertaining to immersion, where respondents were asked about their perception of their own immersion in the game, as well as asked if they were motivated by various traditional immersive drivers. These immersion motivation factors are based on items adapted from previous studies, applicable according to the previous findings of the qualitative research discussed in Chapter 3.

Research question 4, “*Are MOBA game players likely to have an antisocial motivation?*” is addressed through questions pertaining to antisocial motivation, where respondents were asked about their antisocial activity in the game, as well their reaction to experiencing antisocial behaviour from others. Antisocial behavioural

traits are based on items adapted from previous studies, applicable according to the previous findings of the qualitative research discussed in Chapter 3.

Research question 5, “*Do MOBA game players self identify with their characters?*” is addressed through questions pertaining to identity and character attachment, where respondents were asked about their perception of identity in the context of game characters, as well as asking questions regarding drivers for champion selection and questions involving gender. These identity and character attachment factors are based on items adapted from previous studies, applicable according to the previous findings of the qualitative research detailed in Chapter 3.

A trial survey was conducted in order to evaluate the effectiveness of the questionnaire, which was then slightly modified. The trial involved a sample of eight *League of Legends* players who were interviewed following their completion of the survey, to ensure that all questions were easily understood. Respondents in the trial answered all the questions in the online survey, however their results were not included in the dataset. In the trial all questionnaires were completed in less than ten minutes. The trial survey resulted in one change, where the survey incorrectly showed respondents a question that was not applicable to them, based on their purchasing habits. This error was adjusted.

The instrument was administered using the online survey application *Qualtrics*, with the survey being live for two weeks. 80% of responses were collected within the first week.

4.3 Descriptive Statistics

The descriptive statistics used to analyse the data collected include crosstabulation tests, these tests illustrate the multivariate frequency distribution across variables. Pearsons chi-square tests are used to identify the likelihood of statistical significance occurring by chance, with the p value shown in ($p=$) brackets (<0.05). Mean tests are also conducted, with the purpose being to measure the size of the difference between

variables, relative to the variation in the data. Mean values are shown in (m=) brackets. ANOVA comparisons are used to judge statistical significance between variables, where with the (sig=) bracket contains the ANOVA significance value (<0.05). The inclusion of the area of effect statistic (η^2) for ANOVA is necessary to describe the strength of the relationship between two variables, with small area of effects (<0.02) illustrating the strongest relationships.

After disseminating the online survey questionnaire across a number of game-specific social media pages, a total of exactly 200 surveys were returned. In order to validate responses, the account name provided by each respondent was loaded into a verified third party application (<https://oce.op.gg>) to check that the response can be attributed to an active account. 7 responses were attributed to invalid account names and were removed. In addition to removing responses associated with invalid accounts, 5 responses were incomplete, resulting in 188 usable surveys.

Table 28. Demographic Information

	Category	Number	Percentage
Have purchased RP	Yes	175	93.1%
	No	13	6.9%
Annual income (NZD)	Less than \$10,000	119	63.3%
	\$10,000 to \$19,000	28	14.9%
	\$20,000 to \$29,000	9	4.8%
	\$30,000 to \$39,000	7	3.7%
	\$40,000 to \$49,000	5	2.7%
	\$50,000 to \$59,000	7	3.7%
	\$60,000 to \$69,000	5	2.7%
	\$70,000 to \$79,000	2	1.1%
	\$80,000 to \$89,000	4	2.1%
	\$90,000 to \$149,000	2	1.1%

Gender	Male	152	80.9%
	Female	29	15.4%
	Other	7	3.7%
Age years	Under 18	61	32.4%
	18 to 24	111	59%
	25 to 34	16	8.5%
Highest level of education	Primary school	1	0.5%
	High school	120	63.8%
	Undergraduate degree	54	28.7%
	Postgraduate degree	12	6.4%
	Doctorate degree	1	0.5%

Table 1 presents demographic information, showing respondents ranging from under 18 years of age up to 34 years of age, with just over 90% of respondents (172) being under 24 years old. This indicates a young user group, with 63.8% being high school students (120), and 28.7% being undergraduate students (54), while almost 7% of respondents (12) reported having postgraduate degrees. Almost 80% of respondents (147) earn less than \$19,000 per annum, which is logical considering the majority are high school students and will live with their parents. Despite the majority reporting a low annual income, 93.1% of respondents (175) state that they have purchased Riot Points (RP) within the game. RP packages range from NZ\$5 to NZ\$100.

For each New Zealand dollar spent on RP, the average value (depending on the size of the package purchased) is 113.2 RP. Items available to purchase with RP range from around 250 RP (~NZ\$2.20) for champion skins on sale, up to 3250 RP (~NZ\$28.70) for Ultimate champion skins. Most skins are priced at around 975 RP each, which equates to around NZ\$8.60 per skin on average. Ward skins are priced at 640 RP each, equating to ~NZ\$5.65 per ward skin. Summoner icons are priced at 250 RP each, equating to ~NZ\$2.20 per icon. IP and XP boosts range from 150 RP (~NZ\$1.30) to 3490 RP (~NZ\$30.80), with various lengths of time associated with each boost offered. Rune pages are available to purchase for 590 RP (~NZ\$5.20) per

page, or 2600 RP (~NZ\$22.90) for a 7 page bundle. Champions are available to purchase with RP from around 300 RP (~NZ\$2.65) for those on sale, up to around 975 RP (~NZ\$8.60) for the latest champions. These prices offer an idea of the *League of Legends* economy and the value of RP.

In regard to gender demographics, the proportion of responses collected from females exceeded expectations; official *League of Legends* user demographics show that less than 10% of *League of Legends* players are female (Riot Games, 2012). Survey responses showed 15.4% of respondents reported being female, while 80.9% reported being male. The survey questionnaire included “Other” as an option when collecting gender data, in an attempt to include those of non-binary genders, which includes any gender identity which does not fit within the male and female binary. This term includes people who are androgynous, intergender, agender, bigender and pangender, genderfluid, demigender, intersex, transgender, and those who have a culturally specific gender identity. However, out of 7 responses (3.7%) who selected “Other” as their gender, 1 identified as “*A Disappointment*” in what can only be interpreted as an attempt to be humorous, and 5 identified as a “*Boeing AH-64 Apache Helicopter*”, which is a reference to a meme popularised through Reddit’s online community (Reddit, 2014). Therefore, it must be realised that although the intention was to include those who have non-binary genders in this survey, it is unlikely that the respondents who selected the “Other” option are actually of non-binary gender. Therefore, “Other” has been excluded from analysis due to questionable validity.

Table 29. Play history and skill level

	Category	Number	Percentage
Length of time playing <i>League of Legends</i>	Less than 1 year	10	5.3%
	1 to 2 years	15	8%
	2 to 3 years	38	20.2%
	3 to 4 years	48	25.5%
	4 to 5 years	45	23.9%

	5 to 6 years	19	10.1%
	More than 6 years	13	6.9%
Regularity of play	Daily	55	29.3%
	4 to 6 times per week	69	36.7%
	2 to 3 times per week	40	21.3%
	Once every two weeks	10	5.3%
	Once a month	2	1.1%
	Other	12	6.4%
Rank	Unranked	16	8.5%
	Bronze	50	26.6%
	Silver	50	26.6%
	Gold	44	23.4%
	Platinum	21	11.2%
	Diamond	6	3.2%
	Master	0	0%
	Challenger	1	0.5%

Considering the length of time spent playing the game, it is apparent that there is a degree of experience amongst almost survey respondents, with the average respondent having played for just over 4 years. Less than 14% of respondents (25) report playing for less than 2 years, while almost 70% of respondents (131) have been playing *League of Legends* for between 2 and 5 years. It must be noted that 17% of respondents (32) have played the game for over five years, with this category considered ‘veteran’ users.

In addition to length of time spent playing the game, it is important to realise that a vast proportion of respondents are also highly active users, with the average player playing around 5 times per week. Almost 30% of respondents (55) report playing daily, with an additional 36.7% (69) playing at least 4-6 times per week. Just over 21% (40) report playing 2-3 times per week, while only 12.8% (24) reporting playing less often. The sample shows that males are more experienced and have played longer

($m = 4.24$) than females ($m = 3.59$), based on length of time playing *League of Legends* (refer Table 2) with as small effect size ($\eta^2 = .02$), although this is not statistically significant ($\text{sig} = .086$). The sample shows that males also play slightly more often ($m = 2.32$) than females ($m = 2.38$) with a very small effect size ($\eta^2 = .00$), based on regularity of play (refer Table 2). However, this mean also holds no statistical significance ($\text{sig} = .636$).

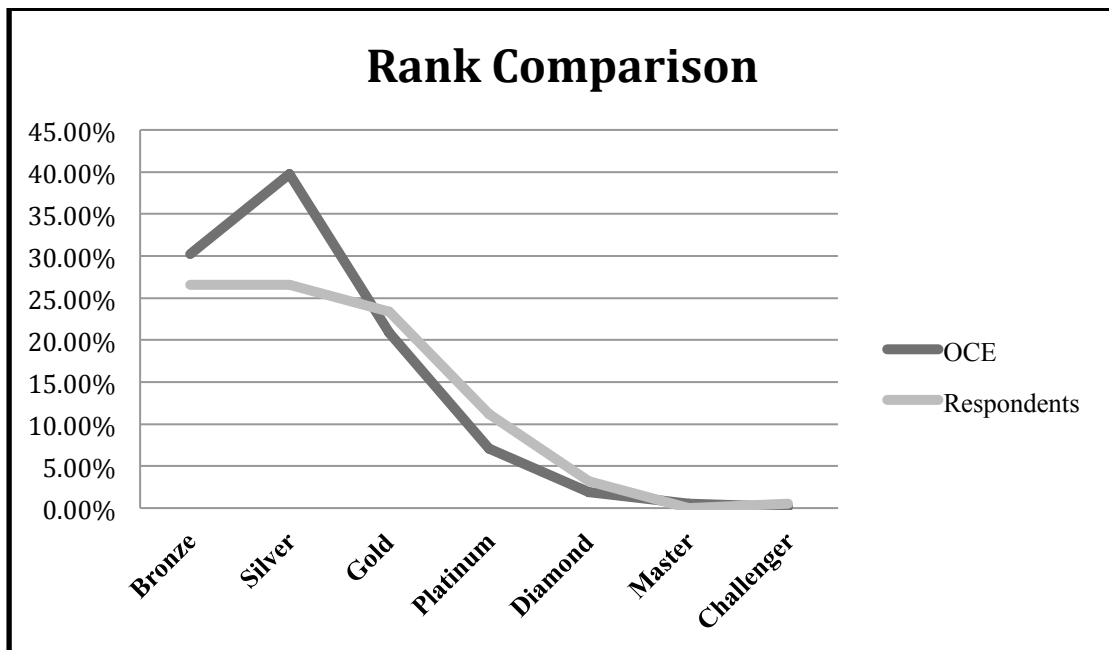


Figure 8. Comparison of respondent rank distribution against average OCE rank distribution

The ranks of survey respondents are compared to the live rank statistics on the Oceanic server (OP.GG, 2017). Figure 8 illustrates a slight underrepresentation for lower tiered players in the survey sample, with fewer Bronze players and significantly less Silver players than the average. A higher representation of Gold, Platinum, Diamond, and Challenger players were included in the sample. It is possible that those who frequent *League of Legends* social media groups are likely to be of a higher skill level. Males are likely to have a higher rank ($m = 3.18$) than females ($m = 2.69$), with statistical significance of .018 and η^2 of .04, indicating a moderate effect size. Notably, 40% (61) of male respondents are ranked Gold or higher. Only 24% (7)

of female respondents are ranked Gold, with this being the highest rank displayed by female respondents. No female respondents were of Platinum, Diamond, or Challenger ranks.

4.4 Research Question One

“Are MOBA game players likely to have an antisocial motivation?”

4.4.1 Antisocial Behaviour

Some players are motivated by antisocial behaviour, which is typified by ‘*flaming*’ or harassing other players, and *provoking others* through dancing or activating champion mastery emotes to taunt their opponents. This is a behaviour that appeared quite often in the qualitative research section in Chapter 3.

Flaming other players appeared as a meaningful factor in relation to antisocial behaviour. When asked how often they flamed, 10% (18) of respondents reported *regular flaming activity*. A further 35.9% (65) of respondents stated that they *sometimes flamed*, 39.8% (72) of respondents reported *rarely flaming*, while 14.4% (26) report having *never flamed*. As such, frequencies show that 1 in 10 respondents display active flaming behaviour, with 91.7% (166) of respondents reporting that *they had been flamed by another player* during a game. While the majority of players (90.1%) do not flame regularly, it is clear that those who display active tendencies for antisocial behaviour succeed in impacting the experience of other players in the game.

Table 30. Motivation to play *League of Legends* and flaming regularity crosstabulation

	Forget problems	Procrastinate	Release anger or frustration	Enjoyment, improve mood, or relax	Progress through levels and improve	Other	Total
I flame every game	0	2	0	1	0	0	3
I flame quite regularly	1	3	0	5	2	4	15
I flame sometimes	6	11	4	25	13	6	65
I don't really flame	7	11	1	32	10	11	72
I've never flamed	0	6	1	15	2	2	26
Total	14	33	6	78	27	23	181

This crosstabulation revealed no statistical significance ($p = .506$), however some insight is offered into the motivation of those who participate in various levels of antisocial behaviour. The cells containing the majority for each comparison are shaded for clarity. Interestingly, when asked what motivates them to play *League of Legends* (forget problems; procrastinate; release anger or frustration; enjoyment, improve mood or relax; progress through levels and improve; other) it was found that out of the few players who reported *flaming every game* (3), 66.6% (2) of them play *League of Legends* to procrastinate (refer Table 17), indicating a level of boredom may exist for those who flame other players in every game. Out of those who reported *flaming quite regularly* (15), 20% (3) also reported *procrastination* as their motivation to play *League of Legends*, with 33% (5) stating that they played for *enjoyment, improving mood or relaxing*. Those who reported *flaming sometimes* (65) were most commonly motivated by *enjoyment, improving mood or relaxing*, with 38.4% (25) of respondents selecting this option. Out of those who *don't really flame* (72), 44.4% (32) are motivated by *enjoyment, improving mood or relaxing*, and 57.6% (15) of those who *have never flamed* (26) are also motivated by *enjoyment, improving mood or relaxing*. Out of the 26 respondents who selected 'Other', 50% (13) cited *playing with friends* as their motivator to play *League of Legends*. Overall,

it is clear that the most common motivator is playing for *enjoyment, improving mood, and relaxing* (43%).

Table 31. Gender and players' reaction when flaming occurs crosstabulation

	It's funny	I encourage it	I don't really mind	I feel uncomfortable	I want to leave the game	Total
Male	39	4	57	35	11	146
Female	3	0	4	10	12	29
Total	42	4	61	45	23	175

This crosstabulation revealed strong statistical significance ($p = .000$), with insight offered into the perception of those who experience flaming during games, and the impact that gender has on these perceptions. The cells containing the majority for each comparison are shaded for clarity. Respondents were questioned regarding how they felt when experiencing flaming, with answers including *thinking it is funny* (24.3%), *encouraging the flaming* (2.2%), *not minding* (35.4%), *feeling uncomfortable* (25.4%), and *wanting to leave the game* (12.7%).

Interestingly, gender significantly impacts responses to antisocial behavior ($p = .000$). Females reported feeling high levels of discomfort when encountering flaming and other antisocial behaviours during games, with 75.8% (22) of females *feeling uncomfortable* or *wanting to leave the game* as a result, compared to 31.5% (46) of male respondents with the same result.

Table 32. Flaming regularity and player's reaction crosstabulation

	It's funny	I encourage it	I don't really mind	I feel uncomfortable	I want to leave the game	Total
I flame every game	2	1	0	0	0	3

I flame quite regularly	4	1	6	2	2	15
I flame sometimes	20	1	26	12	4	65
I don't really flame	15	1	24	22	10	72
I've never flamed	3	0	8	8	7	26
Total	44	4	64	46	23	181

There was some statistical significance between *flaming regularity* and the *player's feeling when flaming occurs in a game* ($p = .009$). The cells containing the majority for each comparison are shaded for clarity. Those who *flame every game* report that they *think it's funny* (66.6%) when flaming occurs, while those who *flame quite regularly* report that they *don't really mind* (40%) when flaming occurs in a game. Those who *flame sometimes* also report that they *don't really mind* (40%), consistent with those who don't really flame reporting that they also *don't really mind* (33.3%). However, 30.5% of those who *don't really flame* also reported *feeling uncomfortable* when flaming occurs. Findings show that those who have *never flamed* have very even responses, with 30.7% reporting that they *don't really mind* and the same amount reporting that they *feel uncomfortable* (30.7%). 26.9% of those who have *never flamed* report *wanting to leave the game* when flaming occurs. Overall, these findings indicate that those who flame regularly have a higher tolerance for flaming when it occurs in their games. Those who do not flame are most negatively affected by the occurrence of flaming.

Table 33. Provocation and flaming regularity crosstabulation

	I flame every game	I flame quite regularly	I flame sometimes	I don't really flame	I've never flamed anyone	Total
I spam my mastery	3	4	14	10	2	33

emote all the time						
I flash my mastery emote after a good play	0	7	23	15	6	51
I retaliate is the opposing player initiated the provocation	0	1	11	19	5	36
I rarely flash my mastery emote or dance if my opponent dies	0	3	12	18	8	41
I never provoke other players	0	0	5	10	5	20
Total	3	15	65	72	26	181

The crosstabulation of provoking other players and the flaming habits of players revealed statistical significance ($p = .016$). The cells containing the majority for each comparison are shaded for clarity. It is shown that those who *flame every game* also actively provoke other players, with 100% (3) of those who flame every game also reporting *I spam my mastery emote all the time*. Those who *flame quite regularly* are most likely to participate in provocative behaviour by *flashing their mastery emote after a good play* (35.3%), and those who report *flaming sometimes* are also most likely to participate in provocative behaviour by *flashing their mastery emote after a good play* (26.3%). This provocative behaviour has a somewhat sportsmanlike motivation behind it, with some degree of respect being given to the opponent. Those who have *never flamed* anyone are most likely to *rarely flash their mastery emote or dance when their opponent dies* (30.7%), indicating that provocation as an antisocial behaviour is not commonly displayed by those who do not flame others. Out of the 20 respondents (11%) who reported *never provoking others*, 50% reported that they *don't really flame*. This further reinforces the likelihood of provocative behaviour and flaming going hand-in-hand as behaviours contributing to antisocial motivation.

4.4.2 Mood Repair

Escapism tendencies are often perceived as symptoms of addiction and are often paired with antisocial behaviour, however escapism is being considered through the lens of *mood repair*, where a player experiencing negative real life events and experiencing a bad mood will play a game in order to correct this, and convert a negative mood into a positive mood. Respondents were asked if they participated in these behaviours, how effective it was for them, and how regularly they practised mood repair-based habits.

Table 34. Mood repair and escapism mean

Mood Repair Motivator	Behaviour	Mean		ETA ²	ANOVA Sig.
Playing <i>League of Legends</i> to forget or avoid real world problems	I played the game to distract myself from a negative event and felt I had control over the situation	Yes	2.54	.038	.011
		No	3.25		
Playing <i>League of Legends</i> to forget or avoid real world problems	I played the game to distract myself from a negative event and felt I was able to cope with the situation	Yes	2.67	.031	.021
		No	3.25		
Playing <i>League of Legends</i> to forget or avoid real world problems	I played the game to distract myself and I didn't have to think about the negative event	Yes	2.92	.034	.015
		No	3.38		

These mean comparisons indicate that those who play the game to *forget or ignore real world problems* (1= *All the time*; 2= *Often*; 3= *Sometimes*; 4= *I did once*; 5= *Never*) are likely to *feel in control of the situation* when practicing mood repair behaviour (sig= .011), with a mean of 2.54 and small area of effect. Those who play the game to *forget or ignore real world problems* are also likely to feel like they can *cope with the situation* (sig= .021) with a mean of 2.67 and small area of effect. Those who play the game to *forget or ignore real world problems* also felt they *didn't*

have to think about the negative event (sig= .015) with a mean of 2.92 and small area of effect.

Table 35. Antisocial motivators and mood repair mean

Antisocial Motivator	Mood Repair Behaviour	Mean		ETA ²	ANOVA Sig.
How often do you flame other players	I played the game to distract myself from a negative event and felt I was able to cope with the situation	Yes	3.87	.023	.049
		No	3.52		
How often do you flame other players	I played the game to distract myself and I didn't have to think about the negative event	Yes	3.80	.067	.001
		No	3.35		
How often do you flame other players	I played the game to distract myself from a negative event and I could talk with my friends on the game	Yes	3.86	.055	.002
		No	3.43		
How often do you flame other players	I played the game to distract myself from a negative event and felt better afterward	Yes	3.93	.053	.002
		No	3.46		

When comparing flaming activities with escapism/mood repair results, it becomes clear that a significant statistical relationship exists. Flaming regularity (*1= I flame every game, 2= I flame quite regularly, 3= I flame sometimes, 4= I don't really flame, 4= I've never flamed anyone*) in a mean comparison with factors associated with escapism and mood repair show that those who play the game for escapism or mood repair reasons are *less likely* to participate in flaming or antisocial behaviour. This can be seen through *flaming regularity* compared with *playing the game to distract from a negative real life event and coping with the situation* (sig= .049), which revealed a mean of 3.87 and small area of effect (eta²= .02), the higher end of the scale indicating less regular flaming activity. *Flaming regularity* compared with *playing the game to distract self and avoid thinking about the negative event* also

revealed a strong statistical significance (sig= .001) a mean of 3.80, and moderate area of effect ($\eta^2 = .06$), again indicating that those who display this behaviour are likely to flame less regularly. *Flaming regularity* compared with *playing the game to distract self from the negative event and talk to friends on the game* also showed strong statistical significance (sig= .002), with a mean of 3.86 and moderate area of effect ($\eta^2 = .05$). This finding shows that those who display escapism/mood repair-based behaviour while also being motivated by contact with online friends are unlikely to participate in flaming-based antisocial behaviour.

Flaming regularity compared with *playing the game to distract self from a negative event and feeling better afterward* showed strong statistical significance (sig= .002), with a mean of 3.93 and moderate area of effect ($\eta^2 = .05$), indicating that those who found playing the game to distract from a real life problem an effective solution to repair negative moods, are unlikely to display antisocial flaming behaviour.

Table 36. Immersion levels and playing *League of Legends* as distraction from negative real life event crosstabulation

	Yes	Maybe	Probably not	No	Total
I am completely immersed and barely notice anything outside the game	26	5	10	1	42
I am somewhat immersed	57	23	11	18	109
I mostly play the game for competitive reasons	12	3	3	2	20
I don't really believe in the game and only play for the combat aspect	3	4	3	0	10
Total	98	35	27	21	181

This crosstabulation shows some insight into the relationship between levels of immersion and the tendency to play *League of Legends* to distract from negative real

life events, which can be understood as a mood repair behaviour. Out of those who report complete immersion in the game, 61.9% report that they do play the game to distract themselves from negative real life events. Similarly, out of those who report being somewhat immersed, 52.2% also report playing the game to distract themselves from negative real life events. Out of those who play the game for competitive reasons, 60% also play the game to distract themselves from negative real life events. The only real deviation from this habit is shown for those who don't believe in the game and virtually experience no immersion, of which 40% report *maybe* playing the game to distract themselves from negative real life events, with 30% reporting that they *do* play the game to distract themselves from negative real life events, and 30% reporting that they *probably don't* play the game to distract from negative real life events. However, the overall picture shows that most people who play *League of Legends*, regardless of immersion level, are likely to play the game to distract from negative real life events. The only exception is for those who report very *low immersion* and don't believe in the game, commonly demonstrating *less likelihood to participate in mood repair behaviour*.

Table 37. Immersion levels and playing *League of Legends* to forget or avoid real world problems crosstabulation

	All the time	Often	Sometimes	I did once	Never	Total
I am completely immersed and barely notice anything outside the game	6	8	20	4	4	42
I am somewhat immersed	14	4	47	14	30	109
I mostly play the game for competitive reasons	6	0	8	3	3	20
I don't really believe in the game and only play for the combat aspect	0	2	2	3	3	10

Total	26	14	77	24	40	181
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This crosstabulation illustrates the level of immersion experienced by players and the prevalence of mood repair behaviour ($p = .008$), with the majority of players who report being *completely immersed* stating that they *sometimes* play the game to forget or ignore real world problems (47.6%). Out of the players who report being *somewhat immersed*, the majority also state that they *sometimes* play the game to forget or ignore real world problems (43.1%). Interestingly, 40% of those who state that they mostly play the game for *competitive reasons* and therefore experience low levels of immersion also report that they *sometimes* play the game to forget or ignore real world problems (40%). The only deviation from sometimes practising mood repair behaviour is for those who report that they don't believe in the game and only play for the combat aspect, which is considered the lowest level of immersion. 30% of these respondents report that they *once* played the game to forget or ignore real world problems, with an equal 30% reporting that they *never* play the game to forget or ignore real world problems. This crosstabulation illustrates that those who experience *high levels of immersion* are more *likely to participate in mood repair behaviour*, with players experiencing *low levels of immersion* being *less likely to participate in mood repair behaviour*.

4.5 Research Question Two

“Are MOBA players with a social motivation likely to purchase hedonic goods?”

This research question is based on the expectation that players who have a social motivation to play are likely to purchase hedonic items, based on the research framework (fig. 10) developed throughout previous qualitative research, as outlined in Chapter 3.

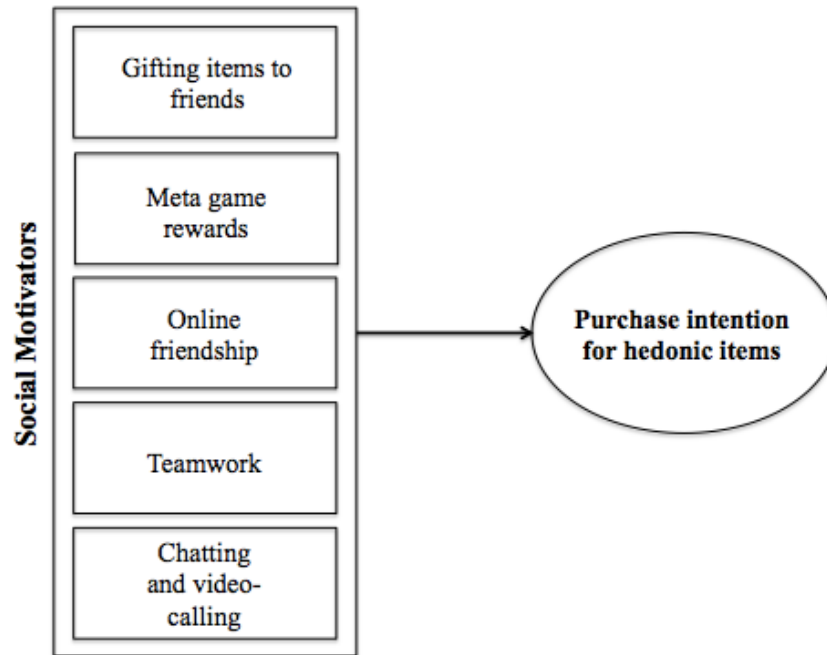


Figure 10. Research framework for social motivators and PI for hedonic items

The hedonic items attributes framework is shown below (fig. 11), with this framework being used to categorise the virtual items available for players to purchase within the game.

Hedonic attributes	Visual appearance and sounds Background fiction Provenance Customisability Cultural references Branding
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Figure 11. Hedonic good attributes (Lehdonvirta, 2009)

In the context of *League of Legends*, three types of virtual goods available for purchase in the game are classified as hedonic items. All three of these item categories display some or all of the hedonic attributes described by Lehdonvirta (2009) in fig. 11. These include champion skins, which augment the appearance, animations, and sound effects of characters. These are available only available to purchase with RP. Summoner icons are another type of hedonic good, which are visual icons shown next to the player's name and are visible for all players to see, allowing an augmented physical appearance for each user's account. These are available for purchase with both IP and RP. The final type of hedonic good in *League of Legends* are ward skins, which augment the appearance and animation of wards used within the game. These are available only available to purchase with RP. The following statistics describe the popularity of each type of item, and demographics of those who purchase each type of item.

- *Champion skins*, of which 97.1% of respondents report purchasing with RP. 97.1% of male respondents (136) report purchasing champion skins, and 96.4% of female respondents (28) report purchasing champion skins.
- *Summoner icons* are another hedonic item, with 48% of respondents having purchased these with RP. 43.5% of male respondents (61) report purchasing summoner icons, and 67.8% of female respondents (19) report purchasing summoner icons.
- *Ward skins* are the final hedonic item, with 33.7% of respondents purchasing this type of item with RP. 29.2% of male respondents (40) report purchasing ward skins, and 53.5% of female respondents (15) report purchasing ward skins.

These findings indicate that champion skins are the most popular hedonic item, with little difference between male and female purchasing habits for this item. However, it is clearly seen that females are more likely than males to purchase summoner icons and ward skins.

4.5.1 Gifting

The social motivator of gifting is applicable in the *League of Legends* context, with players having the ability to gift virtual items to friends through the RMT store.

Table 38. Gifting motivator and hedonic goods crosstabulation

Social Motivator	Hedonic Goods	Chi Square Sig.
Giving gifts to friends	I have purchased champion skins with RP	.000
Giving gifts to friends	I have purchased summoner icons with RP	.023
Giving gifts to friends	I have purchased ward skins with RP	.045
Giving gifts to friends	I purchase summoner icons because they look good	.027
Giving gifts to friends	My favourite summoner icon was gifted to me by a friend	.018
Giving gifts to friends	My favourite champion skin is old/rare/exclusive/limited edition	.014
Giving gifts to friends	My favourite champion skin is a skin for my main champion	.036
Giving gifts to friends	My favourite champion skin is an Ultimate skin	.032
Giving gifts to friends	My favourite champion skin displays the logo of my favourite e-sports team	.003

Based on the series of crosstabulations shown in Table 3, it is obvious that *giving gifts to friends* has a strong significance in relation to *purchasing hedonic goods*. Crosstabulations showed that *giving gifts to friends* has a strong statistical significance in relation to purchasing habits for all three types of hedonic goods.

In regard to purchasing habits for hedonic goods, gifting appears as one of the most influential social motivators. Purchasing champion skins with RP is strongly significant ($p=.000$), with 95.7% (159) of those who have purchased champion skins with RP having also gifted items to their friends. Similarly, purchasing summoner icons with RP also showed strong statistical significance ($p=.023$), with 98.7% (81)

of those who have purchased summoner icons with RP also having gifted items to friends. Purchasing ward skins with RP ($p = .045$) also correlated strongly with the gifting motivator, with 98.2% (57) of those who have purchased ward skins with RP also having gifted items to friends. Purchasing hedonic items based on their appearance is also statistically significant in relation to the gifting motivator ($p = .027$). 56.7% of those who reported gifting items to friends also reported selecting summoner icons *based on the perception that they looked good*. This statement indicates a purely hedonic purchase motivation.

Interestingly, all (10) respondents who reported that their favourite summoner icon was one that a friend had gifted to them, had also given gifts to friends. This is statistically significant ($p = .018$), indicating that *those who value gifts given to them are likely to give gifts to others*. Similarly, 94.4% (17) of those who reported their favourite champion skin is a rare, limited edition, or otherwise exclusive item, also report gifting items to their friends ($p = .014$). This shows that players who value hedonic items such as rare and limited edition items are also likely to participate in social behaviour such as gifting. 87.9% (95) of those who reported their favourite champion skin being one for their main champion also reported gifting items to their friends ($p = .036$). This finding indicates that those who wish to display their skill or attachment to a character through using skins also participate in social behaviour such as gifting. 90% (30) of those who reported their favourite skin being an Ultimate skin also reported gifting items to their friends ($p = .032$), which indicates that those who wish to display valuable items are also likely to participate in social behaviour such as gifting. Interestingly, 100% (162) of those who responded positively to gifting items to their friends also responded negatively to the statement, “this is my favourite champion skin because it displays the logo of my favourite e-sports team” ($p = .003$). This significance indicates that those who participate in the social behaviour of gifting are unlikely to desire branded products or display affiliation to e-sports teams.

4.5.2 Meta-game Rewards

Meta-game rewards, which exist as *Honour* in *League of Legends*, are considered a social motivator. Direct purchasing habits for each of the three hedonic item types showed little statistical significance after crosstabulation with meta-game rewards. However, social behaviour and preferences for hedonic items showed some significance (refer Table 4).

Table 39. Meta game reward motivator and hedonic goods crosstabulation

Social Motivator	Hedonic Good Attributes	Chi Square Sig.
Importance of meta game rewards	I purchase champion skins for characters I have mastered	.001
Importance of meta game rewards	My favourite summoner icon is the one I perceive as the most attractive	.027
Importance of meta game rewards	My favourite champion skin is an Ultimate skin	.003

This crosstabulation revealed statistical significance between players who value meta-game rewards such as Honour, and specific perceptions and behaviours to do with purchasing hedonic goods. The first strong significance is between the importance of meta-game rewards and purchasing champion skins for characters that the player has mastered ($p = .001$). Basing the purchase of a summoner icon off attractiveness or aesthetic appeal is also statistically significant with valuing meta-game rewards ($p = .027$), as is the preference of a favourite champion skin being based on the fact it is an Ultimate skin – or very valuable – in significance with meta-game rewards ($p = .003$).

Table 40. Meta game reward motivator and hedonic goods mean

Social Motivator	Hedonic Good Attributes	Mean	ETA ²	ANOVA Sig.

Importance of met-game rewards to players	This icon is my favourite because it is attractive	<i>Yes</i>	2.44	.036	.024
		<i>No</i>	2.72		
Importance of meta-game rewards to players	This is my favourite champion skin because it's an Ultimate skin	<i>Yes</i>	2.36	.038	.009
		<i>No</i>	2.62		
Importance of meta-game rewards to players	This is my favourite champion skin because it was gifted to me by a friend	<i>Yes</i>	2.32	.027	.028
		<i>No</i>	2.62		
Importance of meta-game rewards to players	I purchase skins for champions I have mastered	<i>Yes</i>	2.48	.079	.000
		<i>No</i>	3.04		

Social behaviour and preferences for hedonic items showed statistical significance, with 89.1% (82) of respondents who reported Honour as being important to them also reported purchasing skins for champions that they had mastered ($p = .001$), with a mean of 2.48 ($\text{sig} = .000$) and relatively large effect size ($\eta^2 = .07$). Additionally, 56.2% (27) of respondents who reported Honour as being important to them also reported that they chose their favourite summoner icon *based on the perception that it looked good* ($p = .027$). This statement indicates a purely hedonic motivation, further reinforced by an ANOVA significance of .024, relatively small area of effect ($\eta^2 = .03$) and a mean of 2.44. Following crosstabulation, the statistical significance of meta-game rewards and respondents reporting their favourite skin being an Ultimate skin is notable ($p = .003$). A mean of 2.36, relatively small area of effect ($\eta^2 = .03$) and ANOVA significance of .024 further indicate that Ultimate skins have significant value for respondents who view meta-game rewards as important. ANOVA tests ($m = 2.32$) with a small area of effect ($\eta^2 = .02$) showed that players who value meta-game rewards are very likely to base identification of their favourite champion skin on the fact that it was gifted to them by a friend ($\text{sig} = .028$).

Table 41. Meta-game reward motivator and social behaviour mean

Social Motivator	Social Behaviour	Mean		ETA ²	ANOVA Sig.
Importance of meta-game rewards	I often gift items to my friends	Yes	2.36	.046	.007
		No	2.65		
Importance of meta-game rewards	Developing friendships with people who play <i>League of Legends</i>	Yes	2.51	.081	.000
		No	3.19		

These findings indicate that players who value meta-game rewards such as Honour are likely to display other positive social behaviour such as often gifting items to their friends, illustrated by an ANOVA significance of .007 ($m = 2.36$) and moderate area of effect ($\eta^2 = .04$). Players who value the importance of meta-game rewards are also extremely likely ($\text{sig} = .000$) to develop friendships with those who play the game ($m = 2.51$), however the area of effect is large ($\eta^2 = .08$).

4.5.3 Online Friendships

Developing online friendships with other players is common social motivator, where players often tailor their purchases based social norms within their groups of friends.

Table 42. Developing online friendships and hedonic goods crosstabulation

Social Motivator	Hedonic Goods	Chi Square Significance
Developing friendships with people who play <i>League of Legends</i>	I purchase champion skins for characters I have mastered	.048

Interestingly, direct purchasing habits for hedonic items driven by development of online friendships showed no statistical significance after crosstabulation. This suggests that *League of Legends* players are not likely to purchase hedonic items based on the social norms of their online friend group. However, *developing online*

friendships and *preferences for hedonic items* showed some significance. 86.4% (115) of those who report developing friendships with other players in the game also purchased *cosmetic items for champions that they have mastered* ($p = .048$), indicating statistical significance. This relationship is likely to be driven by the desire to customise and personalise the champions that users play often, to impress online friends.

4.5.4 Teamwork

Little statistical significance was found when using crosstabulations and means to analyse teamwork in relation to hedonic goods. Interestingly, out of all four types of Honour available, 52.3% (99) of respondents reported Teamwork as being their most frequently received Honour. This indicates that the survey sample displays relatively high levels of teamwork-based behaviour, however teamwork does not appear to be a strong motivator in relation to purchasing hedonic goods.

4.5.5 Chatting and video-calling

Crosstabulations revealed little statistical significance for chatting and video-calling activities in relation to purchasing hedonic goods. However, mean comparison tests (refer Table 8) revealed statistical significance between chatting and video-calling and hedonic goods.

Table 43. Chatting and video-calling and hedonic goods mean

Social Motivator	Hedonic Goods	Mean		ETA ²	ANOVA Sig.
Using voice or video-calling applications such as Discord or Skype to communicate with other players	I purchase champion skins to impress my friends	Yes	1.56	.029	.032
		No	1.69		

This significance (sig= .032) was based on the scale of *using voice or video-calling applications such as Discord or Skype to communicate with other players* (1= *often*, 2= *only with my friends*, 3= *sometimes*, 4= *never*), in comparison to *purchasing champion skins to impress friends* (yes, no) which resulted in a mean of 1.56 and small area of effect ($\eta^2 = .02$). This shows that those experience the social motivation of chatting and video-calling are likely to purchase hedonic goods to impress their friends. Strong relationships between chatting and video calling and participating in other social behaviour were also discovered, as shown in Table 9.

Table 44. Chatting and video-calling and social behavior mean

Social Motivator	Social Behaviour	Mean		ETA ²	ANOVA Sig.
Using voice or video-calling applications such as Discord or Skype to communicate with other players	I often gift items to my friends	Yes	1.48	.066	.001
		No	1.76		
Using voice or video-calling applications such as Discord or Skype to communicate with other players	Developing friendships with people who play <i>League of Legends</i>	Yes	1.65	.033	.017
		No	1.89		

Mean tests show that the social motivator of chatting and video-calling (1= *often*, 2= *only with my friends*, 3= *sometimes*, 4= *never*) is highly statistically significant (sig= .001) in relation to *often gifting items to friends* (m= 1.48) with a moderate area of effect ($\eta^2 = .06$). *Chatting and video calling* is also significant (sig= .017) with *players developing online friendships* with those who play the game (m= 1.65), with a relatively small area of effect ($\eta^2 = .03$). These findings indicate that those who are socially motivated and participate in chatting and video-calling behaviour are also likely to participate in other social behaviours such as gifting items to friends and

developing online friendships with other players.

4.6 Research Question Two

“Are MOBA players with an achievement motivation likely to purchase functional goods?”

This research question is based on the expectation that players who have an achievement motivation to play are likely to purchase functional items, based on the research framework (fig. 12) developed throughout previous qualitative research, as outlined in Chapter 3.

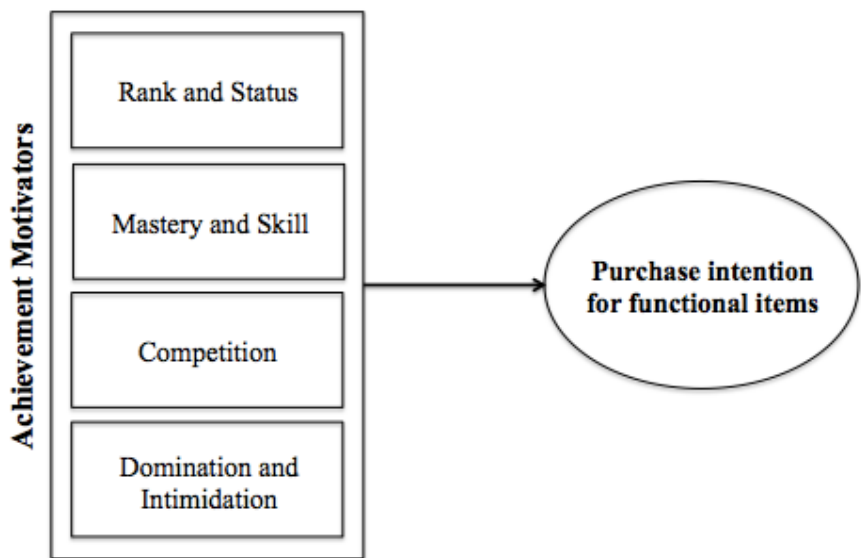


Figure 12. Research framework for achievement motivators and PI for functional goods

The functional items attributes framework is shown below (fig. 13), with this framework being used to categorise the virtual items available for players to purchase within the game.

Functional attributes	Performance
	Functionality

Figure 13. Functional good attributes (Lehdonvirta, 2009)

In the context of *League of Legends*, three types of virtual goods available for purchase in the game are classified as functional items. These include champions, which are the characters within the game. Purchasing champions enables players to play them at any time, as well as accumulate mastery points specific to each champion. Champions are available for purchase with both IP and RP. Rune pages are another functional item, which enable players to create any number of rune sets, which allow a statistical power advantage during games. Rune pages are available for purchase with both IP and RP. IP and XP boosts are the final functional item, which enable players to accumulate bonus IP and XP points during games. These are only available to purchase with RP. The following statistics describe the popularity and demographics of those who purchase each type of functional item.

- *Champions*, which 50.3% of respondents report purchasing with RP. 52.8% of male respondents (74) report purchasing champions with RP, while only 34.4% of females (10) report purchasing champions with RP.
- *Rune pages*, which 34.3% of respondents report purchasing with RP. 35.7% of male respondents (50) report purchasing rune pages with RP, while only 25% of females (7) report purchasing rune pages with RP.
- *IP and XP boosts*, which 25.7% of respondents report purchasing with RP. 27.1% of male respondents (38) report purchasing IP and XP boosts with RP, while only 21.4% of females (8) report purchasing IP and XP boosts with RP.

These findings indicate that overall, males are more likely than females to purchase functional items across all three item types. All three of these item categories display some or all of the functional attributes described by Lehdonvirta (2009) in fig. 13.

Table 10 displays the results for direct achievement motivations and functional goods purchasing habits crosstabulations.

Table 45. Achievement motivators and functional goods crosstabulation

Achievement Motivator	Functional Goods	Chi Square Sig.
Importance of leveling up rank	I have purchased IP and XP boosts with RP	.010
Importance of leveling up champion mastery	I have purchased IP and XP boosts with RP	.013
Importance of leveling up champion mastery	I have purchased rune pages with RP	.044

Leveling up rank is significant in relation to purchasing IP and XP boosts with RP ($p = .010$), while leveling up champion mastery shows statistical significance with both purchasing IP and XP boosts with RP ($p = .013$) and purchasing rune pages with RP ($p = .044$).

4.6.1 Rank, Status, and Competition

Rank is the primary form of status that is recognised within the *League of Legends* community, with an extremely competitive Ranked scene thriving in all regions. Competition falls into this category, with the desire to win Ranked games and progress through Ranked tiers offering a competitive challenge for players. Interestingly, desire to level up rank ($1 = \text{extremely important}$, $2 = \text{very important}$, $3 = \text{moderately important}$, $4 = \text{not important}$, $5 = \text{I don't play ranked games}$) has *no statistical significance* in relation to functional item purchases. Similarly, player's perception of rank, where respondents were asked if they believed that players of higher rank had more skill, ($1 = \text{strongly agree}$, $2 = \text{agree}$, $3 = \text{somewhat agree}$, $4 = \text{neither agree nor disagree}$, $5 = \text{somewhat disagree}$, $6 = \text{disagree}$, $7 = \text{strongly disagree}$) has *no statistical significance* in relation to functional item purchases.

Interestingly, those of lower Rank were more likely to disagree when asked if Rank was an accurate measurement of a player's skill. The impact of respondents' actual rank in relation to functional item purchases did show statistical significance ($p=.010$) and is shown in Table 11.

Table 46. Rank and functional goods crosstabulation

Demographic	Functional Goods	Chi Square Sig.
Rank	IP and XP boosts purchased with RP	.010

This result illustrates that there is a strong relationship between respondents' actual rank and purchasing IP and XP boosts with RP ($p=.010$). IP and XP boosts appeared as the only significant functional item after crosstabulation. This may be due to those with a competitive motivation wanting to speed up the leveling progress of getting to Level 30, where XP is no longer relevant and players gain access to Ranked games.

Table 47. Rank motivators and functional goods mean

Rank Motivator	Functional Goods	Mean		ETA ²	ANOVA Sig.
Rank	IP and XP boosts purchased with RP	<i>Yes</i>	3.64	.036	.012
		<i>No</i>	3.10		
Rank	Rune pages purchased with RP	<i>Yes</i>	3.53	.028	.026
		<i>No</i>	3.09		

Following mean comparison tests, there is a strong relationship between respondents' actual rank (*1= Unranked, 2= Bronze, 3= Silver, 4= Gold, 5= Platinum, 6= Diamond, 7= Challenger*) (refer Table 2) and purchasing IP and XP boosts with RP ($m= 3.64$) with ANOVA significance of .012 and relatively small area of effect ($\eta^2=$

.03), showing players with higher actual ranks are more likely to purchase IP and XP boosts. Players with a higher actual rank are also more likely to purchase rune pages with RP ($m = 3.53$) with ANOVA significance of .026, and small effect size ($\eta^2 = .02$). These findings indicate that those who reach higher ranks are likely to have purchased functional items in order to have a statistical advantage over other players, however purchasing champions with RP remains insignificant in relation to actual rank. This is logical, as champions are available to purchase with IP, and players of higher rank are likely to have played the game for longer ($\text{sig} = .000$) and with high regularity ($\text{sig} = .044$) (refer Table 2). Playing games results in the steady acquisition of IP, which in turn allows players to purchase champions with IP instead of RP.

4.6.2 Mastery and Skill

Players are able to gain mastery points and levels on each individual champion that they own in *League of Legends*. Levels range from level 1 up to level 7, where possessing mastery from levels 4 up to 7 enables players access to an emote on that champion which displays in load screen and is visible when activated by the player during a game.

Table 48. Champion mastery and functional goods mean

Achievement Motivator	Functional Goods	Mean		ETA ²	ANOVA Sig.
Importance of leveling up champion mastery	Champions purchased with RP	Yes	2.89	.039	.010
		No	3.34		

The achievement motivator of leveling up champion mastery ($1 = \text{extremely important}$, $2 = \text{very important}$, $3 = \text{moderately important}$, $4 = \text{not important}$, $5 = \text{not at all important}$) has notable statistical significance ($\text{sig} = .010$) to purchasing champions with RP ($m = 2.89$) with a moderate area of effect ($\eta^2 = .03$). This finding is

interesting, as owning champions is necessary before players can unlock mastery levels. This aspect within the game design offers some logical explanation as to why *purchasing champions with RP* is likely for players with a *mastery-based achievement motivation*.

4.6.3 Dominance and Intimidation

Dominating other players is a common power and achievement motivation. Intimidation is often experienced when other players display mastery of a champion or own a skin for the champion they are playing, as discussed in Chapter 3. The following tables show the significant relationship between dominance and purchasing functional goods, and the desire to intimidate others through purchasing items.

Table 49. Dominance and functional goods mean

Achievement Motivator	Functional Goods	Mean		ETA ²	ANOVA Sig.
I play to assert dominance over other players	IP and XP boosts purchased with RP	Yes	3.43	.024	.043
		No	4.04		
I play to assert dominance over other players	Rune pages purchased with RP	Yes	3.51	.025	.038
		No	4.08		
My goal is to accumulate the most kills and carry the game	IP and XP boosts purchased with RP	Yes	3.45	.025	.040
		No	4.04		

The results of the motivation to dominate others through the game and functional goods in a mean comparison test showed no significance between *asserting dominance over other players* (1= strongly agree, 2= agree, 3= somewhat agree, 4= neither agree nor disagree, 5= somewhat disagree, 6= disagree, 7= strongly disagree) and purchasing champions with RP. However, *asserting dominance over other players* and *purchasing IP and XP boosts with RP* showed significance (sig= .043), with a mean of 3.43 and small area of effect (eta²= .02). Similarly, asserting

dominance over other players and *purchasing rune pages with RP* showed significance ($\text{sig}=.038$), with a mean of 3.51 and small area of effect ($\text{eta}^2= .02$). These findings indicate that there is a strong significance behind those who play to assert dominance over others and purchasing specific functional items.

Additionally, the motivation to *accumulate the most kills and carry the game* (1= *strongly agree*, 2= *agree*, 3= *somewhat agree*, 4= *neither agree nor disagree*, 5= *somewhat disagree*, 6= *disagree*, 7= *strongly disagree*) showed no statistical significance with purchasing champions with RP or purchasing rune pages with RP. However, a statistical significance between having the desire to accumulate the most kills and carry the game and *purchasing IP and XP boosts with RP* ($\text{sig}= .040$) was found ($m= 3.45$) with a small area of effect ($\text{eta}^2= .02$). This finding shows that there is a strong statistical significance between those who play to *accumulate the most kills and carry the game*, and those who *purchase IP and XP boosts* as a functional item. It can be noted that the desire to speed up timers or reduce time spent collecting IP through playing games may be a driver for players with this achievement motivation.

When respondents were asked if they purchase items to intimidate other players, 21% (34) of respondents reported that they did purchase champion skins to intimidate other players, while 79% (128) reported that they did not. This frequency shows that the majority of respondents do not display a motivation to intimidate others, with further crosstabulation tests finding no statistical significance between intimidation and purchasing functional items.

4.7 Research Question Three

“Do MOBA game players experience low levels of immersion?”

4.7.1 Immersion

Immersion is traditionally measured through play habits involving *exploration* and *finding objects*, and the user's perception of character *lore*.

Table 50. Immersion motivators and behaviours crosstabulation

Immersion Motivator	Behaviour	Chi Square Sig.
Level of immersion experienced whilst playing <i>League of Legends</i>	Player's feeling when flaming occurs in a game	.004
Level of immersion experienced whilst playing <i>League of Legends</i>	Playing <i>League of Legends</i> to distract self from a negative life event	.041
Level of immersion experienced whilst playing <i>League of Legends</i>	Playing <i>League of Legends</i> to forget or ignore real world problems	.008
Importance of champion lore	Playing <i>League of Legends</i> to explore the map	.041

These significant relationships show that there is statistical significance between the level of immersion that players experience whilst playing *League of Legends*, and the feeling that players experience when flaming occurs in a game ($p = .004$), which is expanded in Table X. Additionally, the level of immersion that players experience whilst playing *League of Legends*, and playing *League of Legends* to distract self from a negative real life event are also statistically significant ($p = .041$). The level of immersion that players experience whilst playing *League of Legends*, and playing *League of Legends* to distract self from a negative life event also show a statistical significance ($p = .008$). Lore, which is an important factor in traditional immersion studies, also shows statistical significance when crosstabulated with exploring the map, which is another key immersion factor ($p = .041$).

Table 51. Immersion levels and player's reaction to flaming occurrence crosstabulation

	It's funny	I encourage it	I don't really mind	I feel uncomfortable	I want to leave the game	Total
I am completely immersed and barely notice anything outside the game	6	1	10	12	12	42
I am somewhat immersed	30	2	40	30	7	109
I mostly play the game for competitive reasons	8	1	8	2	1	20
I don't really believe in the game and only play for the combat aspect	0	0	6	2	2	10
Total	44	4	64	46	23	181

This crosstabulation illustrates the areas of significance for levels of immersion experienced by players, and their feeling when flaming occurs in a game. A mean comparison also reveals statistical significance ($\text{sig} = .055$) with a moderate η^2 of .05. It can be seen that those who are *completely immersed* and barely notice anything outside the game are also likely to *feel uncomfortable* (%) and *want to leave the game* (%) as a result of flaming occurrences. Those who are *somewhat immersed* most commonly report that they don't really mind, while X% also report *thinking the flaming is funny* and equally, *feeling uncomfortable* (%). Those who play for competitive reasons report *thinking the flaming is funny* (%) and equally *not really minding* (%). Those who *don't believe in the game* and experience low immersion are likely to *not really mind* (%) when flaming occurs. This crosstabulation clearly illustrates that those experiencing *higher levels of immersion* are *most likely to be negatively affected* by flaming and anti-social behaviour.

Table 52. Lore and map exploration crosstabulation

	Definitely	Probably	Maybe	Probably not	Definitely not	Total
I love learning the lore	3	1	5	9	7	25
The lore is interesting	1	8	10	26	19	64
Lore is okay	0	5	5	10	17	37
I don't really learn the lore	2	0	8	12	19	41
Lore is boring and a waste of time	0	0	1	3	10	14
Total	6	14	29	60	72	181

Respondents were asked if they played *League of Legends* to explore the map, with 39.7% responding that they ‘definitely [did] not’ consider map exploration as a motivator. A further 33.1% responded that they ‘probably [did] not’ play to explore the map, indicating that 72.9% of respondents did not see map exploration as a strong motivator. When crosstabulating *map exploration* with the *importance of champion lore* ($p = .041$) and running mean comparison tests ($\text{sig} = .024$), it became obvious that there was statistical significance for these topics. Those who were less interested in champion lore (*lore is okay*; *I don't really learn the lore*; *lore is boring and a waste of time*) (50.9%) were also unlikely consider map exploration as a motivator (‘definitely not’) (63.8%).

Table 53. Importance of lore and mood repair mean

Immersion Motivator	Mood Repair Behaviour	Mean		ETA ²	ANOVA Sig.
Importance of the	I played the game to distract	Yes	2.07	.029	.026

champion lore	myself from a negative event and felt respected by other players	No	2.81		
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This mean comparison test shows that the importance of the lore (*1= I love learning the lore; 2= lore is interesting; 3= lore is okay; 4= I don't really learn the lore; 5= lore is boring and a waste of time*) compared to playing the game for mood repair reasons and feeling respected by other players has statistical significance (sig= .026), with a small area of effect. The mean indicates that those who appreciate the champion lore are more likely to also play for mood repair reasons and feel respected by other players. The positive reception to lore as an immersion motivator and the ability to feel respected by other players indicate that these respondents experience significant levels of immersion.

4.8 Research Question Five

“Do MOBA game players self identify with their characters?”

4.8.1 Identity

The practice of self-identification can be defined as “the attribution of certain characteristics or qualities to oneself”, with the application of this practice in an online gaming context meaning *a player attributing certain characteristics or qualities of a champion to themselves*. The practice of self-identification in MMO and MMORPG studies has shown that players will select characters based on their belief that the character reflects some of their own identity or characteristics. Based on the responses of the interviewees in Chapter 3, players of MOBA games do not display this tendency, instead basing their selection of a champion on abilities and game-play qualities. To examine self-identification in the quantitative survey, respondents were asked if they selected their favourite champion based on *personality and image*,

abilities and gameplay, or if they selected their favourite champion based on *appearance*.

Table 54. Self-identification driver frequencies

	Yes	No
This is my favourite champion because I like their personality and image	90	91
This is my favourite champion because I think they reflect who I am	28	153
This is my favourite champion because I enjoy their abilities and gameplay	158	23
This is my favourite champion because I like their appearance	78	102

Results show that 50.2% (91) of respondents stated that they *did not base their favourite champion of personality and image*, however it must be noted that the results for this question are very even, with 49.7% (90) agreeing that they based their favourite champion of personality and image. Only 15.5% (28) of respondents reported that they based their favourite champion on the reflection of their own identity, with 84.5% (153) stating that they *did not think that their favourite champion reflected who they are*. Further, 87.2% (158) of respondents reported *identifying their favourite champion based on the fact that they enjoyed the character's abilities and gameplay*, with only 12.7% (23) disagreeing with this statement. When asked if they based their favourite champion on the fact that they liked their appearance, only 43.3% (78) stated that they based their favourite champion of *appearance*, with 56.6% (102) disagreeing with this statement. Overall, it is quite clear that the majority of respondents state that they *do not think that their favourite champion reflects who they are* (84.5%) and instead *identify their favourite*

champion based on enjoyment of abilities and gameplay (87.2%). The self-identification driver frequencies are crosstabulated with gender in Table 23.

Table 55. Gender and self-identification with character

Self-identification	Gender	Yes	No
This is my favourite champion because I like their personality and image	<i>Male</i>	68 (46.5%)	79 (54.1%)
	<i>Female</i>	18 (62%)	11 (38%)
This is my favourite champion because I think they reflect who I am	<i>Male</i>	21 (14.3%)	125 (85.6%)
	<i>Female</i>	5 (17.2%)	24 (82.7%)
This is my favourite champion because I enjoy their abilities and gameplay	<i>Male</i>	130 (89%)	16 (11%)
	<i>Female</i>	24 (82.7%)	5 (17.2%)
This is my favourite champion because I like their appearance	<i>Male</i>	59 (40.1%)	87 (59.9%)
	<i>Female</i>	15 (51.7%)	13 (44.8%)

This table illustrates the difference between male and female self-identification. It is clear that *females are more likely* to base the identification of their favourite champion on personality and image (62%) in comparison to males (46.5%). Both females and males are *unlikely* to think that their favourite champion reflects something about themselves, and *likely* to identify their favourite champion due to enjoyment of abilities and gameplay. Interestingly, *females are more likely* to select their favourite champion based on appearance (51.7%) in comparison to males (40.1%).

One common finding in MMO and MMORPG studies is that players often select a character of *the same gender as themselves*, and design the character to imitate the player's own physical characteristics. Whilst there aren't as many customisation options in MOBA games for players to design characters to the degree of that in MMORPG, skins allow MOBA players a number of different customisation options for each character. The impact of gender as a driver for character selection and

character attachment is something that can be easily explored. In order to ascertain the impact of gender on character selection and character attachment, survey respondents were asked if they were *more likely to select a champion with the same gender as themselves*, if *gender had no impact on their selection of a champion*, or if they were *more likely to select a champion of the opposite gender*.

Table 56. Gender and character attachment crosstabulation

Gender	Character Attachment	Chi Square Sig.
(Female) gender preferences for champions	Factors influencing champion selection	.005
(Male) gender preferences for champions	Factors influencing champion selection	.001

This table offers an overview of the key significant findings in relation to gender and factors influencing character selection, which are expanded in Tables 25-26.

Table 57. Factors influencing champion selection and female gender preference crosstabulation

	I select my champion based on appearance	I select my champion based on abilities	I select my champion based on gender	Total
I play only female champions	0	1	1	2
I am more likely to play female champions	2	7	0	9
Gender has no impact on my selection of a champion	0	1	0	17
I am less likely to play a female champion	0	1	0	1
I am more likely to	0	0	0	0

select a male champion				
Total	2	26	1	29

This crosstabulation reveals the factors influencing champion selection for female players ($p = .005$), with the cells containing notable content for each comparison being shaded for clarity. Findings show that 100% of females who report that they *select champions based on appearance* (2) are also *more likely to play female champions*, which equates to 6.8% of female respondents. This indicates that females are likely to perceive female champions as being more aesthetically pleasing than male champions. Interestingly, 24.1% (7) of females who reported being *more likely to play female champions* also report *selecting their champion based on abilities*. This indicates that a proportion of female players prefer the abilities and gameplay of female champions. However, the majority of female respondents (58.7%) stated that *gender has no impact on their selection of a champion* (17), and that they also *select their champion based on abilities*. This indicates that the majority of female players disregard gender and select their characters based on *mechanical aspects such as abilities and gameplay*. This finding points toward a *lack of character attachment and low self-identification* for females based on gender.

Table 58. Factors influencing champion selection and male gender preference crosstabulation

	I select my champion based on appearance	I select my champion based on abilities	I select my champion based on gender	Total
I play only male champions	0	0	0	0
I am more likely to play male champions	0	1	0	1
Gender has no impact on my selection of a champion	6	131	0	137
I am less likely to play a	0	1	0	1

male champion				
I am more likely to select a female champion	2	2	0	4
Total	8	135	0	143

This crosstabulation reveals the factors influencing champion selection for male players ($p = .001$), with the cells containing notable content for each comparison being shaded for clarity. Notably, 93.7% of male respondents report that gender has *no impact of their selection of a champion*, and that they select their champion based on abilities. Additionally, it must be noted that no respondents reported playing only male champions, and no respondents report selecting their champion based on gender. This is a very strong indicator that male respondents almost exclusively select their characters based on *mechanical aspects such as abilities and gameplay*. This finding strongly indicates a *lack of character attachment and low self-identification* for males based on gender. The following statistics summarise self-identification with characters by gender.

Table 59. Self-identification with characters by gender frequency

Identity	Gender	Percentage
This is my favourite champion because I think they reflect who I am	Male	Yes (14.3%)
		No (85.6%)
	Female	Yes (17.2%)
		No (82.7%)

This table clearly shows *that the vast majority of male and female respondents do not believe that their favourite character reflects anything about themselves or their*

identity. This strongly indicates that MOBA game players do not self-identify with their characters.

4.9 Limitations

Possible methodological limitations to this research includes a lack of prior research studies on the topic of MOBA games. As such, this research is primarily based on previous studies and frameworks designed for other game genres. This limitation prompted the adoption of an exploratory mixed methods approach, where the prior qualitative research was conducted in order to provide some prior research to improve the direction of questioning, identify relevant data sets, and improve the validity of this quantitative research.

Generalisability may be somewhat limited as shown by the slightly disproportionate representation of lower-ranked players throughout survey responses, with more higher ranked players than the average. Additionally, a disproportionately high number of female respondents (15% compared to the average of 10%) may skew the data slightly. Additionally, this study was conducted on players within the Oceanic region, which means the results may not be representative of *League of Legends* players in other regions. Further research including players of other regions to determine if there are any geographically-related differences should be conducted.

One aspect that has already been mentioned is the fact that the majority of respondents who selected ‘Other’ as their gender did so in jest, using the text box to refer to a popular meme which essentially makes fun of gender acceptance. As such, those responses were not included in comparisons for gender. This limited the level of gender acceptance that was intended, with the proposal that in future research, instead of having ‘male’, ‘female’, and ‘other’ as the options, the ‘other’ option be replaced by ‘non-binary gender’ in order to be specific, and reduce the risk of a similar occurrence happening again.

Another possible limitation is self-reported data, where survey responses may contain potential sources of bias. There is the possibility of: selective memory bias, where respondent remembers or doesn't remember an experience from the past; telescoping bias, where the respondent may recall events that occurred at one time as if they occurred at another time; attribution bias, where the respondent may attribute positive events and outcomes to one's own agency, but attribute negative events and outcomes to external forces; and exaggeration bias, where the representation of outcomes or events is more significant than is suggested from other data (Price & Murnan, 2004). It is impossible to tell if these biases have or have not occurred due to the lack of previous studies with which to use for comparison, however, the possibility cannot be ruled out.

Longitudinal effects may be a limitation for this study, as the research period and data collection occurred over a short period of time, and in an area that is highly changable. For instance, the data collection period occurred between *League of Legends*' patch 6.24 and patch 7.9. During this time period of several months, a large number of changes occurred within the game design, some of which may have influenced the perceptions of respondents in regard to various game aspects. One major example would be recent introduction of a new meta-game reward system, introduced in patch 7.13. Therefore, it must be realised that in order to gain an understanding of the impact that these types of changes have on player perception and behaviour, a similar study should be replicated over a longer period of time, with data collection occurring at scheduled intervals in order to gauge the degree of impact that these types of changes have.

5. Discussion

A study of the drivers influencing players of Multiplayer Online Battle Arena (MOBA) games to make micro-transactional purchases

The exploratory sequential mixed methods design described in this paper was selected to provide in-depth qualitative insight into the motivational drivers for MOBA game players, as well as the purchasing drivers influencing MOBA players to make micro-transactional purchases. Additionally, the quantitative research phase was conducted in order to further explore significant behaviours identified during the qualitative research phase. This involved the identification of the fact that MOBA players deviate from traditional character attachment behaviour and display unique identity perceptions compared to MMO and MMORPG players. Additionally, the identification of mood repair as a potential play motivator has been an unexpected but welcome addition to the motivational aspect of this study.

This research was based upon a comprehensive literature review, with several particularly relevant studies contributing to the design of the research. Lehdonvirta's 2009 virtual item attribute model which proposed three categories of purchasing drivers based on virtual item attributes. This research has contributed by confirming the applicability of these attributes in a MOBA context, with most prior usage of the model being within the mobile app sector and social networking games. This research shows that the attributes function as purchasing drivers within the MOBA context as well. This research also drew from elements of Hamari et. al.'s (2016) concrete purchasing drivers framework (refer Appendix A), with drivers such being adapted for use in this research. The original framework was designed for analysing mobile app games, however the concrete purchasing drivers that were applicable to the

MOBA context revealed strong significance. The applicable drivers included ‘giving gifts to friends’, ‘personalisation’, ‘speeding up timers’, ‘becoming the best’, ‘showing off achievements’, and ‘showing off to friends’, amongst others, appeared as concrete motivators for MOBA players. A number of factors did not apply, including ‘avoiding spam’, ‘avoiding repetition’, ‘continuing play’, and ‘protecting achievements’, as these game design blocks do not exist in MOBA. This research utilised the applicable concrete purchasing drivers as per Hamari et. al.’s framework in the study of MOBA game players.

The core motivators proposed by Yee (2007) provided the basis for the motivational section of this study, with the core elements of social, achievement, and immersion-based motivators. This research confirmed the importance of achievement as a motivator for MOBA players, with advancement and status, technical advantage, and competition through challenging others with provocation and intimidation all applying to the MOBA context. The social motivators of chatting and making friends also proved applicable, with the addition of gifting to others (Hamari, et. al., 2016) and displaying meta-game rewards (Cruz, Hanus, & Fox, 2014) proving to be important social motivators within the MOBA genre. Following the qualitative research phase which identified the most prominent themes in a final thematic framework, research questions were designed for quantitative exploration.

The first of these research questions addressed the antisocial behaviours of MOBA players, asking “are MOBA players likely to have an antisocial motivation?”. Antisocial motivators are prevalent in many online games, with some players playing exclusively to harrass other players (Paul, Bowman, & Banks, 2015). The practice of flaming or harrassing other players, and provoking others through actions such as displaying champion mastery emotes to taunt opponents, or dancing when an opponent dies, all appeared as relevant and applicable factors following qualitative analysis. These behaviours are categorised as antisocial behaviours within the *League of Legends* context. Interestingly, although traditional studies describe those who are motivated by escapism as being *more* likely to participate in antisocial behaviour, this

research showed that *League of Legends* players who participated in escapism-based behaviours – such as mood repair – were *less* likely to participate in antisocial behaviours, like the flaming and provocation of other players.

Addiction and escapism have been considered immersion-based behaviours in traditional studies. However, when interviewees were asked questions relating to addiction during the qualitative research phase, several fascinating responses directed the researcher to further investigate game-addiction studies, resulting in the discovery of the *mood repair* concept. It was decided that instead of looking at escapism from the negative perspective of addictive behaviour, the survey would contain questions pertaining to mood repair.

The term ‘mood repair’ refers to a conscious behaviour where the player instigates “a shift in mood state from noxious (negative valence) to optimal (positive valence)”, through distraction from a negative real life event through the act of playing a game (Bowman & Tamborini, 2013, p. 376). The vast majority of respondents reported that they had participated in habits suggesting mood repair, with significant findings revealing that players felt *in control of the situation*, felt *better after playing the game*, felt they could *cope with a negative real-life situation*, felt *respected by other players*, in addition to other positive outcomes, after instigating mood repair. This result was unexpectedly significant, with those who experienced *higher levels of immersion* being *more likely* to have participated in mood repair behaviour.

The second research question asks, “are MOBA players with a social motivation likely to purchase hedonic items?”. This question considers Yee’s (2007) social motivators of socialising and teamwork. Following the qualitative research phase, the socialising motivator was expanded to include chatting and video-calling, and developing online friendships. Further social motivators include meta-game rewards, (Cruz, Hanus, & Fox, 2014), and gifting items to friends, as identified through the qualitative research phase. Additionally, hedonic item attributes are categorised as visual appearance and sounds, background fiction, provenance, customisability,

cultural references, and branding, with the addition of the social attribute, rarity (Lehdonvirta, 2009). Cosmetic augmentation through the purchase of champion skins are shown to be the most common hedonic purchase, with the second most common hedonic purchase being summoner icons, and the least commonly purchased hedonic item being ward skins. Further, the proposition that those with a social motivation are more likely to purchase hedonic items appears to be valid. Those who purchase hedonic goods are also highly likely to purchase hedonic items to gift to their friends. Those who value the gifts given to them by their friends are also most likely to gift items to others. Interestingly, those who gift items to their friends are extremely unlikely to purchase champion skins based on branding, with 100% of respondents stating that their favourite skin does not display the logo of their favourite e-sports team. This may be due to the core motivation for purchasing hedonic goods, which is based purely primarily on aesthetics. Goods that display branding and logos may not appear as aesthetically pleasing as those with other designs.

Players who valued the importance of meta-game rewards as a social motivator indicated a significant likelihood to purchase cosmetic items for champions they had mastered. This relationship may be based on the fact that players who wish to accumulate and display meta-game rewards such as Honour, also want to highlight their skill through customisation of a character. Those who value meta-game rewards as a social motivator are also likely to gift to friends, and consider their favourite cosmetic items to be those that friends had gifted to them. This indicates that these players are strongly affected by social influence. This finding is reinforced by the significant likelihood for players who value meta-game rewards to develop friendships with others who play the game.

Chatting and video-calling during games proved to be an important social motivator for players, with those who viewed this factor as a motivator also purchasing cosmetic items to impress their friends, and developing friendships with others who play the game. Additionally those who regularly chat and video-call also report often gifting items to their friends, indicating active participation in social activity online.

Interestingly, females are more likely than males to purchase hedonic items and participate in socially-oriented behaviour. This aligns with findings from the literature.

One social motivator that appeared significant during qualitative research, but did not show statistical significance throughout the quantitative phase, is *teamwork*. Despite MOBA games being a highly team-focussed game, teamwork did not show statistical significance. This phenomenon was not explained by the results of the quantitative survey, with no significance found.

The third research question asks, “are MOBA players with an achievement motivation likely to purchase functional goods?”. Core achievement motivators of rank and status, mastery and skill, competition, and domination and intimidation (Yee, 2007), all appeared as significant motivators during the qualitative research phase. The functional items (Lehdonvirta, 2009) within *League of Legends* include champions, rune pages, and IP and XP boosts. The proposition that players with an achievement motivation are more likely to purchase functional items appears to be valid. This is based on the findings of the quantitative phase, which revealed that those who perceive leveling up their rank as important are likely to purchase functional items, with leveling up rank contributing to the rank and status achievement motivation. Additionally, the actual rank of respondents in comparison to purchasing drivers revealed some interesting findings, with those of a higher rank being more likely to have purchased functional items, such as IP and XP boosts and rune pages. Interestingly, purchasing champions with RP remains insignificant in relation to actual rank. This appears logical, as champions are available to purchase with IP, and players of higher rank are likely to have played the game for longer and with high regularity. Playing games results in the steady acquisition of IP, which enables players to purchase champions with IP instead of RP, therefore negating the need to ‘waste’ RP on champions.

Those who are motivated by mastery and skill have a desire to level up their champion mastery and accumulate mastery points. Findings show that these players are likely to purchase champions as functional goods, with little statistical significance for the other two types of functional goods. This appears logical, as the game design means that players must first own champions before they can unlock mastery levels.

Dominance and intimidation motivators are also achievement motivators, although there are some social aspects contributing to each of these motivators. According to qualitative findings, players experience intimidation as a result of other players displaying mastery of a champion, or owning a skin for a champion. Those who have a desire to assert dominance over other players are likely to purchase IP and XP boosts, as well as purchasing rune pages. Accumulating kills and ‘carrying’ the game is another way players dominate others through the game, with this aspect also showing significance. Interestingly, when asked in the quantitative research phase if purchasing champion skins with the desire to intimidate others was a factor, the majority of respondents said ‘no’. This indicates that the intimidation experienced by some players as a result of their opponent displaying a skin is not intentional on the part of the skin owner. Interestingly, males are more likely than females to purchase functional items and participate in achievement-oriented behaviour.

The fourth research question asks, “do MOBA players experience low levels of immersion?”. The immersion motivation is primarily influenced by map exploration, finding objects on the map, character lore, and escapism (Yee, 2007). The findings of the qualitative research phase indicated that key immersive elements such as map exploration and finding objects did not motivate players. The character lore element received a mixed response, appearing to be very important to some, and not important to others. According to Yee’s (2007) theoretical framework, the lack of interest in these core motivators should indicate that MOBA players display low levels of immersion. However, during the quantitative phase, respondents reported that they perceived themselves as experiencing normal to high levels of immersion. This was

despite the vast majority of respondents also reporting that exploring the map was not a motivating factor for them, and mixed responses to questions regarding the importance of finding objects on the map. While there was some interest in character lore, this was not particularly significant, reflecting the qualitative findings.

After some consideration, it is possible that the reason for the mixed results for *finding objects on the map* be that the term ‘objects’ is not clearly defined. The term could relate to anything from champion-based objects such as chimes - which offer greater statistical power for a specific champion - to different types of jungle plants, which offer mobility, vision, and health, respectively. The term ‘objects’ could also refer to wards, which provide teams with vision, with part of the game’s objective being to find wards and deny the enemy team vision on the map. Therefore, it could be that the desire to find objects on the map is partially strategic, instead of immersive. Overall, the statistics indicate that map exploration has little impact on MOBA player immersion, while the indecisive results for finding objects on the map indicate that the question may need to be adjusted to measure immersion in the MOBA context. With the likelihood being that finding objects in MOBA games is a strategic goal, it is important to realise that this question needs to be reconsidered when measuring immersion. Based on these two traditional measurements of immersion, MOBA players should display low levels of immersive behaviour. However, as explained later, this is not the case.

Another key element of immersion is escapism, which proved to be noteworthy. Escapism-based behaviour occurs when gamers play to relax, escape from reality, and forget or avoid real world problems (Yee, 2007; Hotho & MacGregor, 2013; Blinka & Mikuska, 2014). The findings of this research show that most MOBA players are motivated by escapism, with this element of immersion closely relating to mood repair (Bowman & Tamborini, 2013; Rieger, et. al., 2014). Mood repair appeared as an unexpectedly significant motivational factor for MOBA players. The emergence of mood repair as a motivator occurred after several insightful interviews. The quantitative research phase enabled the confirmation of the construct’s significance across a larger sample. This research found that those who display mood repair

tendencies – as an immersive element – are less likely to participate in antisocial behaviours, such as flaming and provoking others, while those who do not participate in mood repair behaviour, are more likely to behave in an antisocial manner. This may be explained by the fact that players who impliment mood repair are likely to be experiencing the game through a positive mindset, compared to those who do not impliment mood repair, who are likely to experience the game through a negative mindset, and thus be more likely to display antisocial behaviour. The findings of this research contradict that previously described by Blinka and Mikuska (2014), who stated that players with escapist and addictive tendencies are more likely to participate in antisocial behaviour. As such, escapism – reframed as mood repair – is an important immersive motivator for MOBA players.

When directly questioned regarding their level of immersion whilst playing, quantitative survey respondents reported normal to high levels of immersion. Females are found to experience particularly high levels of immersion, with almost all female respondents reporting *high levels of immersion* (96.5%). The majority of male respondents also reported *high levels of immersion* (82.1%). With this finding, it would be incorrect to state that based on previous findings pertaining to traditional measurements of immersion, a low level of immersion is experienced whilst playing *League of Legends*. Instead, it must be understood that the measurement of immersion in MOBA games must differ from that in MMO and MMORPG games, with players reporting high levels of immersion despite little desire for traditional immersive activity. This may be due to the difference in MOBA game design compared to MMO games and MMORPG. As such, measuring immersion for MOBA players with the same rubric used by MMO and MMORPG studies may be invalid, with the theoretical basis not being strongly supported in the MOBA context. What drives immersion for MOBA players, if traditional immersive factors are not relevant? Are MOBA players solely immersed by escapism motivators? The clear deviation from the literature indicates that there are other unidentified factors encouraging immersion for MOBA players.

The fifth research question considers “do MOBA players self-identify with their characters?”. This research question is focussed on MOBA players’ perception of identity, involving character attachment and identity, where many game players experience *self-identification* with their characters, and believe that part of their personality is reflected in the character (Bowman, 2012). The constructs of identity and gender revealed interesting results, with qualitative interviews revealing that there was very little evidence to support the traditional character attachment behaviour associated with online game players (Bowman, Lewis, & Weber, 2008; Bowman, 2012). Based on interviews conducted during the qualitative research phase, it became clear that MOBA players did not appear to display typical character attachment and self-identification traits. This finding was solidified during the descriptive quantitative research phase, which revealed significant results across a larger sample. Analysis showed that the vast majority of MOBA players do not experience character attachment, with almost all respondents revealing that they did not self-identify with their characters. When asked if their selection of a character was affected by gender at all, the response was overwhelmingly negative, with almost every respondent stating that gender had no impact on their character selection. Consequently, the theoretical basis for character attachment is not supported in the MOBA context. Instead, the majority of respondents reported that they select their character based on enjoying the abilities and gameplay. The denial of character attachment and lack of self-identification is markedly different from previous studies.

Based on these findings, recommendations for further research are proposed in Chapter 6.1. Most importantly, the aim of this study has been to gain an understanding of the purchasing drivers influencing MOBA players to make micro-transactional purchases. In order to address this research topic, the findings from research questions two and three have been utilised to inform the development of a confirmatory quantitative research model (Chapter 5.1). The aim of this research model is to test hypotheses stating a direct correlation between those who purchase hedonic goods experiencing social motivations, and those who purchase functional goods experiencing achievement motivations.

5.1 Confirmatory Research Model

The following proposed research model is the primary outcome of this study, based on a mixed methods approach utilising thematic qualitative analysis and descriptive quantitative research. This aim of this research project was to identify the motivational factors influencing MOBA players, and the purchasing drivers that applied to players experiencing different play motivations. This paper has provided the opportunity for exploratory research, with this research model (fig. 14) proposed as a second stage, where confirmatory research may be undertaken.

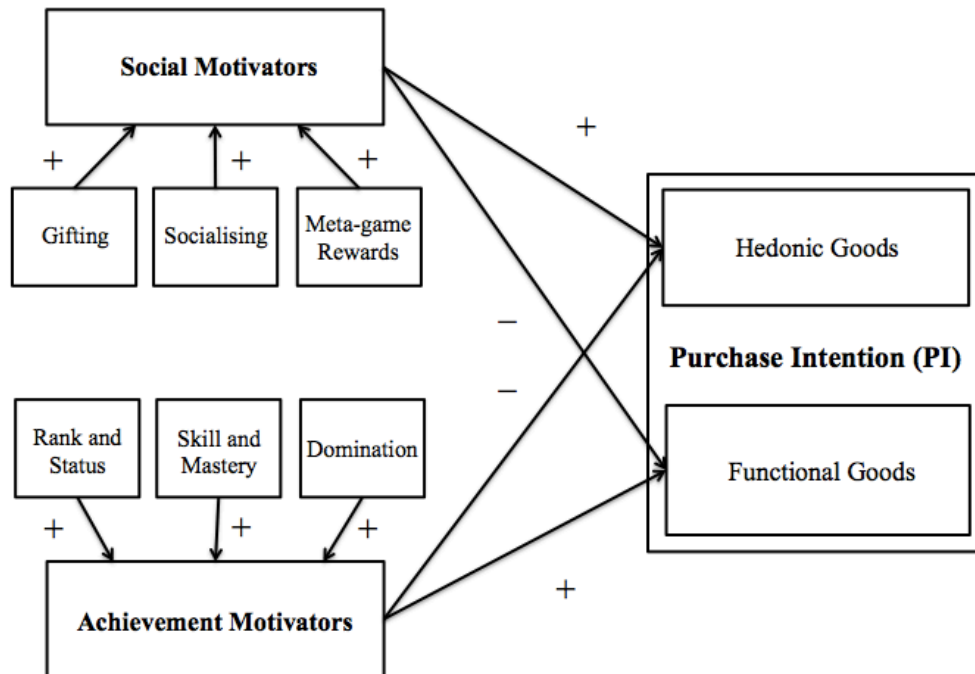


Figure 14. Play motivation and purchase intention for virtual items research model

This research framework illustrates two hypotheses:

- *MOBA game players with an achievement motivation experience purchase intention for functional goods.*

- *MOBA game players with a social motivation experience purchase intention for hedonic goods.*

Additionally, it is expected that MOBA players with an achievement motivation are unlikely to experience purchase intention for hedonic goods, with the expectation that those with a social motivation will be equally unlikely to experience purchase intention for functional goods. Each motivator is composed of the most significant motivational factors identified during the descriptive quantitative research phase of this paper, following strong indications of statistical significance. These factors are gifting, socialising, and meta-game rewards contributing to the social motivator, with rank and status, skill and mastery, and domination, as the factors contributing to the achievement motivator.

It is expected that this research framework be tested on gamers playing other genres of game, with the expectation that players within game genres (especially those with non-traditional game designs) show similar traits to those displayed by MOBA gamers. If any differences in play motivation and purchase intention were discovered, this framework would assist in illustrating the differences between players of different genres. It is expected that any online game that involves the micro-transactional sale of items with different purchasing driver attributes, is likely to attract gamers who make purchases based on specific achievement and social motivations.

This research model should first be used to research a larger sample of Oceanic *League of Legends* players, in order to test the validity of the hypotheses. After this, it is recommended that the research model be utilised across multiple *League of Legends* servers, and the results compared in order to ascertain whether any geographically-specific traits exist in the Oceanic region.

6. Conclusion

A study of the drivers influencing players of Multiplayer Online Battle Arena (MOBA) games to make micro-transactional purchases

This research was undertaken in order to explore and understand an important topic that had been sorely neglected by academic research. Despite the huge impact that MOBA games currently have on the online game industry and the global e-sports scene, there is little to no research into any aspect of the genre. This has resulted in a poor understanding of the game itself, with no documentation regarding the habits of the people who play the game. This research aims to prompt further exploration into the core game play motivation for MOBA players. This research also begins examination of the purchasing drivers for virtual items, where microtransactions function as the engine behind the remarkable growth commercial growth experienced by the MOBA industry.

This research aims shed some light onto the impact of the MOBA genre's unique game design, as the introduction of augmented motivational factors – such as gifting and mood repair – influencing MOBA game players indicates that the game's design has remarkable impact on the experience of the user. These unique motivators show that MOBA players experience differing play motivations in comparison to MMO and MMORPG players. Differences between typical MMO player's motivations described in traditional motivational studies, contrast strongly with the motivations experienced by MOBA players. The unique motivators experienced by MOBA players are recognised through this research, in particular; the impact of mood repair

on game players, the importance of social interaction and gifting of items, and the curious lack of traditional immersive drivers experienced by game players.

Additionally, insight into the specific purchasing habits of MOBA players has been gained. Findings illustrate the fact that MOBA players are predominantly motivated by social motivation and hedonic item attributes, with achievement motivation and functional drivers being somewhat less significant. There is significance between the different types of motivation and the purchasing habits of players, prompting the development of a research model to comprehensively test these correlations. It is hoped that the findings of this research be used to further investigate the purchase intentions of MOBA players, in order to understand what has made this genre so successful. It is hoped that this understanding will improve the game experience for game players, as well as contribute to continued growth of this industry over time. It is expected that the comparison of play motivators in relation to purchasing drivers will reveal a comprehensive view of microtransactional purchase habits, with the proposed confirmatory research model being transferable across game genres.

6.1 Future Research

The following future research opportunities are offered based on the findings discussed in Chapter 5. The broadest and most obvious research opportunity is in the area of the wider MOBA game environment itself, as there is still very little research within this area. While this study has been exploratory in the areas of motivation and purchasing drivers for MOBA players, with some insight into player perceptions of identity and gender, there are many more aspects of MOBA game play and game design that have yet to be examined.

The semi-structured design of the qualitative phase of this study enabled several eye-opening findings – for one, the impact of mood repair – with the opportunity to freely ask questions proving incredibly valuable in gaining a deeper understanding of a

complex and unexplored topic. It is the researcher's belief that further research into the unique motivations and perceptions of MOBA players from a grounded theory approach could uncover additional unidentified aspects of play behaviour and motivation. The exploratory sequential mixed methods approach adopted in this study enabled exploration and the opportunity to apply pre-concieved theory to the topic, with development and exploration into various ideas. However, there are likely to be aspects of further significance which have not yet been identified. Based on the findings outlined in the discussion, many opportunities for further research are proposed.

Gaps identified in the literature following this study include the fact that traditional motivational research frameworks do not completely apply to new game designs; in particular, the motivators contributing to immersion. Online game designs develop and evolve quickly, and the current theory supporting the immersion motivation for online game players is based on traditional MMORPG, and does not take into account different game designs such as MOBA. It would be useful to research the immersion motivators of online games that are designed around objectives other than exploring the map and finding objects. First person shooter games and MOBA games offer good examples of game designs that do not focus on map exploration and the finding of objects.

Another gap in the research has been identified, with mood repair appearing as a motivator that was not previously recognised in motivational studies. This motivator appears to be very significant, with the majority of respondents citing mood repair as a motivation to play the game. It is believed that there is huge opportunity for further research in this area. The adjustment of the research lens from 'escapism' or 'addiction' to 'mood repair' revealed a fascinating aspect of online game play. There is an urgent need for this construct to be further researched in order to fully understand the drivers behind it's occurrence, the psychological implications for players, what prompts this behaviour across different game designs and genres, and what the impact of mood repair is on purchasing drivers. There is the potential for

mood repair via gameplay to be considered a possible solution for addressing issues such as player toxicity and negative antisocial behaviour.

Further, research of MOBA player habits relating to antisocial behaviour such as flaming and provocation revealed findings that differed from previous literature. The findings of this research contradict that previously described by Blinka and Mikuska (2014), who stated that players with escapist and addictive tendencies are more likely to participate in antisocial behaviour. The research revealed that those with escapist tendencies were less likely to display antisocial behaviour. This occurrence may be unique to the MOBA genre, considering Blinka and Mikuska's study was focussed on players of the MMO, *World of Warcraft*. Further research opportunities include conducting studies across players of both genres to determine if there is any significant difference between the antisocial behaviours of each group of gamers, or if this new development is representative of current gamer behaviour across multiple genres.

The research involving identity and character attachment also uncovered a very different finding than that of previous literature, illustrating a significant gap in current knowledge. The practice of self-identification with characters commonly experienced by game players was found to not apply to the vast majority of MOBA players. This means that MOBA players do not select characters based on the belief that the character reflects something about their identity; further, MOBA players report completely disregarding gender as a factor when selecting champions. The vast majority of both males and females stated that instead, they selected their character based on abilities and gameplay. This remarkable finding should be further researched, as this appears to be the first documentation of this phenomenon. There is potential for eye-opening discoveries into what appears to be MOBA players' unique perceptions of gender and identity within the virtual world.

However, the core research topic of this thesis involves the impact that play motivations have on the purchasing drivers of MOBA players. This descriptive

research showed strong indications that there is a relationship between those who purchase virtual items based on hedonic and functional attributes, and the varying play motivations that these players experience. Based on these indications, a quantitative research model has been developed based on the research findings. The aim of this research model is to test hypotheses stating a direct correlation between those who purchase hedonic goods experiencing social motivations, and those who purchase functional goods experiencing achievement motivations. This is a very important part of future research for the MOBA genre, and the primary outcome of this research.

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Appendices

Appendix A. Concrete purchasing motivators model (Hamari et. al., 2016)

Motivation	Statement	Description	Literature
Avoiding spam	I didn't want to bother others by spamming them.	Many free-to-play games have provided the possibility for players to earn in-game currency or goods by sending messages to friends. Spamming friends in this manner, however, is generally frowned upon. Therefore, some players rather pay up than spam their friends.	Alha et al 2014; Paavilainen et al. 2015b; Paavilainen et al. 2013 (spamming is considered as a major inconvenience in game design); Nieborg 2015 (paying is an alternative to asking friends to help)
Becoming the best	I wanted to be the best in the game.	Many In-game items boost the performance of players thus giving them an advantage over other players.	Alha et al. 2014 (getting an edge over other players); Lehdonvirta 2009 (performance & winning); Yee 2006 (achievement); Ryan et al. 2006 (competence); Tyni et al. 2011 (competition); Nieborg 2015; Evans 2015; Park & Lee 2011 (character competency)
Continuing play	I wanted to continue the game.	Many free-to-play game designs prevent player from continuing the game sessions unless they use real.	Hamari & Lehdonvirta 2010 (the need to purchase new items when progressing); Paavilainen et al. 2015a, Paavilainen et al. 2013 (paywalls)
Giving gifts	I wanted to give gifts to others.	Free-to-play games sell gifts that can be given to other players.	Lehdonvirta 2009; Hamari & Järvinen 2011
Investing in a hobby	I wanted to invest in	The gaming activity can be considered as a	Alha et al. 2014 (free-to-play games can be

	my gaming hobby.	hobby similar to any other free- time activity. Players may be motivated to invest financially to their hobby in addition to investing time.	compared to other hobbies that cost money)
Indulging the children	I wanted to make my kids happy.	Games are played with young children, or given to older children to be played, both in order to entertain them and to buy free time for the parents. To support those goals, parents sometimes need to make purchases. The children have their own motivations, but the money is behind the parents.	Kallio et al. 2010
Personalization	I wanted to personalize my characters, the things I build etc.	One prominent value proposition of a lot of in-game content is that it affords players to differentiate themselves from other players by personalizing their avatar or other belonging in- game.	Lehdonvirta 2009 (customizability; provenance); Tyni et al. 2011 (customization)
Playing with friends	I wanted to play with my friends.	Some free-to-play games require that player to use real money in order to add more friends in-game, or employ highly desired features that must be purchased if one wants to play with their friends.	Hamari & Järvinen 2011; Yee 2006 (sociality); Ryan et al. 2006 (relatedness)
Protecting achievements	I wanted to protect stuff I had already earned in the game.	Item/achievement degradation is a prominent game design pattern in free- to-play games where players' earned achievement or items may degrade or be threatened if they are not protected.	Hamari & Lehdonvirta 2010; Hamari 2011; Hamari & Järvinen 2011
Reaching completion	I wanted to complete a level/building etc.	Completing different tasks and level etc. in a	Hamari 2011; Hamari & Järvinen 2011; Ryan

		game can be too difficult or time consuming. Therefore, some players might be willing to pay for skipping.	et al. 2006 (competence); Yee 2006 (achievement); Tyni et al. 2011 (energy refills and task completions)
Reasonable pricing	The free-to-play game was reasonably priced.	Simply, players may be enticed to purchase in-game content if they perceive the deals to be cheap.	Hamari & Järvinen 2011; Park & Lee 2011 (monetary value)
Avoiding repetition	I didn't want to spend time repeating same	Many games have been criticized for repetitive content. Since designing repetitive content is less costly and tasks over and over again. requires less innovation it commonly used. "Grinding" repetitive content can, however, be boring for the players, and therefore, player may be enticed to use real money in order to take a shortcut.	Hamari & Lehdonvirta 2010 (intentional inconvenient design); Evans 2015; Paavilainen et al. 2015b
Showing off achievements	I wanted to show off to my friends.	Players unlock, earn and win many notable signifiers of achievement in games (such as trophies, badges and other virtual goods). However, being able to display all this gaming capital has been also harnessed as a revenue source. Social representativeness and showing off have been observed to be a major reason for in-game content purchases.	Lehdonvirta 2009 (provenance); Sherry et al. 2006; Tyni et al. 2011; Park & Lee 2011 (visual authority)
Showing of to friends	I wanted to show off to my friends.	Players unlock, earn and win many notable signifiers of achievement in games (such as trophies, badges and other virtual goods). However, being able to display all this gaming capital has been	Lehdonvirta 2009 (provenance); Sherry et al. 2006; Tyni et al. 2011; Park & Lee 2011 (visual authority)

		also harnessed as a revenue source. Social representativeness and showing off have been observed to be a major reason for in-game content purchases.	
Participating in a special event	I wanted to participate in special events.	Game companies attempt to come up with novel events and content in the game to keep it fresh. This has also been one way for game companies to introduce new purchasable content. Moreover, special events are often perceived as unique one off events which may induce perceived rarity and therefore fear of missing out	Hamari & Lehdonvirta 2010; Lehdonvirta 2009; Tyni et al. 2011
Special offer	I wanted to buy special offers that give me more value.	Simply, players may be enticed to purchase in-game content if they perceive the deals to be cheap. This may especially be the case if there are special offers of limited quantity or for limited amount of time.	Hamari & Järvinen 2011; Tyni et al. 2011; Evans 2015
Speeding timers	I wanted to speed up timers.	Many games set artificial timers as to how long it takes to for example build a building into the player's village. Many players wish to make this process quicker.	Hamari & Lehdonvirta 2010 (intentional inconvenient design); Lehdonvirta 2009 (speeding gameplay); Tyni et al. 2011 (energy refills and task completions); Nieborg 2015; Evans 2015
Supporting a good game	I wanted to support a free-to- play game that is good.	Player might be enticed to spend money on in-game content to support the company running the game and thus ensuring the games' continuance	Alha et al. 2014

Unlocking content	I wanted to open new playable content (e.g. levels, characters, cards...).	One major form of in-game content is simply more content to play such as maps and levels.	Hamari & Lehdonvirta 2010; Nieborg 2015; Evans 2015
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Appendix B. Pilot interview questions

DEMOGRAPHIC

- What is your Summoner name on the OCE server?
- What gender do you identify with?
- What would you say your preferred role is?
- Have you purchased RP before?

PURCHASING HABITS

- Why do you think people play with skins?
- Would you expect someone to play better if they have a skin, or not really?
- If you're in load screen and you see a player with a skin on their profile, how does that affect your perception of them?
- What would you say your favourite skin is that you've bought?
- Is there any reason behind that being your favourite?
- Is there any skin you'd like to buy?
- Have you ever bought champions with RP?
- Have you bought ward skins with RP?
- Have you purchased Summoner icons with RP?
- Have you bought rune pages with RP?
- Have you purchased any crafting items with RP, such as chests or keys?
- Have you ever purchased RP or XP boosts?

MOTIVATIONAL DRIVERS

- Do you participate in in-game chat or video calling while you play?
- Helping others is also a social factor, so this includes team involvement, would you say that's a strong influencing factor for you?

- In terms of seeking and giving support to others, and encouraging people, would you say that that's something that you do often?
- Is levelling up your Rank, or achieving a champion mastery important to you?
- Is challenging other players a driver for you?
- Do you think you play to assert dominance over other players?
- Is part of your goal to accumulate the most kills or 'carry' the game?
- Do you think you provoke other players? Would you flash your mastery emote or dance when they die?
- Have you ever flamed someone, or been salty or griefing?
- Do you think you select champions to reflect anything about you in any way?
- Obviously you're a guy/girl, so do you think you'd be more likely to pick a male champion/female champion?
- Do you think you customise your champions or buys skins to reflect something about yourself?
- Do you think think that because:
 - ... you're a male, you play an XXXXXXXX role, do you think that has any kind of connection? As a male you might often expected to be more dominant.
 - ... you're a female, you play an XXXXXXXX role, do you think that has any kind of connection? As a female you might often expected to be more supportive.
- Would you expect someone, like maybe a female, to play a more passive role? Perhaps a healer or a support?
- Would you expect someone, like maybe a male, to play a more aggressive role? Perhaps a tank or bruiser?
- What would you say your favourite champion is right now?
- Do you think (X champion) reflects something about yourself?
- Would you say that exploring the map is something that motivates you to play?

- Would you say that finding things on the map motivates you to play?
- Would you say that learning the lore of the champions is important to you?
- Do you think that customising your champions or your ward skins increases how much you enjoy the game?
- Would you prefer to interact with people online rather than in real life?
- Do you participate in the chat often?
- Would you consider in-game interaction as an alternative to traditional interaction?
- Do you think you occasionally play the game to forget or ignore a real world problem?
- Would you say you play more for fun or do you think you have a more competitive motivation?
- If another player is flaming or griefing, does that reduce your enjoyment of the game?
- Do you often play in a team with people you know, or if you prefer to queue alone?

Appendix C. Semi-structured interview questions

DEMOGRAPHIC

- What is your Summoner name on the OCE server?
- What gender do you identify with?
- What would you say your preferred role is?
- How long have you been playing League of Legends?
- How many hours do you play per week?
- Have you purchased RP before?
- If you're comfortable saying, how much do you think you've spent on RP in total?

PURCHASING HABITS

- Why do you think people play with skins?
- Would you expect someone to play better if they have a skin, or not really?
- If you're in load screen and you see a player with a skin on their profile, how does that affect your perception of them?
- What would you say your favourite skin is that you've bought?
- Is there any reason behind that being your favourite?
- Is there any skin you'd like to buy?
- Have you ever bought champions with RP?
- Have you bought ward skins with RP?
- Have you purchased Summoner icons with RP?
- Have you bought rune pages with RP?
- Have you purchased any crafting items with RP, such as chests or keys?
- Have you purchased RP or XP boosts?
- Have you ever given or received a gift through the game?

MOTIVATIONAL DRIVERS

- Do you participate in in-game chat or video calling while you play?
- Helping others is also a social factor, so this includes team involvement, would you say that's a strong influencing factor for you?
- In terms of seeking and giving support to others, and encouraging people, would you say that that's something that you do often?
- Is leveling up your Rank, or achieving a champion mastery important to you?
- Is challenging other players a driver for you?
- Do you think you play to assert dominance over other players?
- Is part of your goal to accumulate the most kills or 'carry' the game?
- Do you think you provoke other players? Would you flash your mastery emote or dance when they die?
- Have you ever flamed someone, or been salty or griefing?
- Do you think you select champions to reflect anything about you in any way?
- Obviously you're a guy/girl, so do you think you'd be more likely to pick a male champion/female champion?
- Do you think you customise your champions or buys skins to reflect something about yourself?
- Would you expect someone, like maybe a female, to play a more passive role? Like perhaps a healer or a support?
- Would you expect someone, like maybe a male, to play a more aggressive role? Like perhaps a tank or bruiser?
- What would you say your favourite champion is right now?
- Do you think (X champion) reflects something about yourself?
- Would you say that exploring the map is something that motivates you to play?

- Would you say that finding things on the map motivates you to play? *For example, Bard chimes, Skarner crystals, the jungle plants...*
- Would you say that learning the lore of the champions is important to you?
- Do you think that customising your champions or your ward skins increases how much you enjoy the game?
- Would you prefer to interact with people online rather than in real life?
- Do you participate in the chat often?
- Would you consider in-game interaction as an alternative to traditional interaction?
- Do you think you occasionally play the game to forget or ignore a real world problem?
- Would you say you play more for fun or do you think you have a more competitive motivation?
- If another player is flaming or griefing, does that reduce your enjoyment of the game?
- Do you often play in a team with people you know, or if you prefer to queue alone?

Appendix D. Quantitative survey questions

What is your *League of Legends* Summoner name on the OCE server? [text response]

What gender do you identify with?

- Male
- Female
- Other [text response]

How old are you?

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74
- 75 - 84
- 85 or older

How long have you been playing *League of Legends*?

- Less than a year
- More than 1 year, less than 2 years
- More than 2 years, less than 3 years
- More than 3 years, less than 4 years
- More than 4 years, less than 5 years
- More than 5 years, less than 6 years
- At least 6 years

How often do you play?

- Daily
- 4-6 times a week
- 2-3 times a week
- Once every two weeks
- Once a month
- Other [text response]

What is your highest level of education?

- Primary school
- High school
- Undergraduate degree

- Postgraduate degree
- Doctorate

What is your approximate annual income? (NZD)

- Less than \$10,000
- \$10,000 - \$19,999
- \$20,000 - \$29,999
- \$30,000 - \$39,999
- \$40,000 - \$49,999
- \$50,000 - \$59,999
- \$60,000 - \$69,999
- \$70,000 - \$79,999
- \$80,000 - \$89,999
- \$90,000 - \$99,999
- \$100,000 - \$149,999
- More than \$150,000

Have you purchased Riot Points (RP) before?

- Yes
- No

Have you purchased champions with RP?

- Yes
- No

Have you purchased champion skins with RP?

- Yes
- No

Have you purchased ward skins with RP?

- Yes
- No

Have you purchased summoner icons with RP?

- Yes
- No

Have you purchased IP or XP boosts?

- Yes
- No

Have you purchased rune pages with RP?

- Yes
- No

I purchased champions with RP because...

- It takes too long to save IP
- It is more cost effective to buy champions with RP
- They were on sale
- Other [text response]

I purchase champion skins because I find them more attractive than the base champion skin.

- Agree
- Disagree

I purchase skins for champions I have mastered.

- Agree
- Disagree

I purchase champion skins to impress my friends.

- Agree
- Disagree

I purchase champion skins to intimidate other players.

- Agree
- Disagree

I purchase summoner icons because... [select applicable answers]

- I want to personalise my account
- I want to support my favourite e-sports team
- The icon is limited edition and rare
- It looks good
- I want to impress my friends
- Other [text response]

I am likely to buy a ward skin that...

- Is part of a set
- Is funny
- Is scary
- Is attractive
- Other [text response]

I purchase rune pages to have an advantage over other players.

- Agree

- Disagree

I have accumulated cosmetic items such as skins through... [*select all that apply*]

- Hextech Crafting
- Gifts from friends
- Purchasing RP
- I don't own any skins
- Other [text response]

My favourite champion skin is... [text response]

The reason behind this champion skin being my favourite is... [*select applicable options*]

- It's a skin for my main champion
- It's an Ultimate skin
- It was gifted to me by a friend
- I think it's the most attractive skin
- It displays the logo of my favourite e-sports team
- It is a very old/rare/exclusive/limited edition skin
- Other [text response]

My favourite summoner icon is... [text response]

This icon is my favourite because... [*select applicable options*]

- It is attractive
- It displays the logo of my favourite e-sports team
- It is a very old/rare/exclusive/limited edition skin
- It's theme is my main champion
- It was gifted to me by a friend
- Other [text response]

I have received gifts from my friends.

- Yes
- No

I have given gifts to my friends.

- Yes
- No

I often gift items to my friends.

- Agree
- Disagree

I develop friendships with other people who play *League of Legends*.

- Agree
- Disagree

I use voice or video-calling applications such as Discord or Skype to communicate with other players.

- Often
- Only with my friends
- Sometimes
- Never

Chatting in game allows me to...

- Joke with others
- Discuss gameplay and strategies
- Flame other players
- I don't chat in game

The *League of Legends* Honour program is a peer-driven reward system. Which honour do you receive most often?

- Friendly
- Helpful
- Teamwork
- Honourable Opponent

Is Honour important to you?

- Very important
- I enjoy receiving Honour
- It is not important
- It is worthless

How important is it for you to level up your Rank?

- Extremely important
- Very important
- Moderately important
- Not important
- I don't play Ranked games

Players with a high rank are more skilled.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

How important is it for you to level up your champion mastery?

- Extremely important
- Very important
- Moderately important
- Not important
- Not at all important

I want to display level six or seven champion mastery emotes.

- Agree
- Disagree
- I don't know

I am a very competitive player.

- Strongly agree
- Agree
- Somewhat agree
- Neither either agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

I play to assert dominance over other players.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

My goal is to accumulate the most kills or 'carry' the game.

- Strongly agree

- Agree
- Somewhat agree
- Neither either agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Do you think you experience high levels of immersion when playing *League of Legends*?

- I am completely immersed and barely notice anything outside the game
- I am somewhat immersed
- I mostly play the game for competitive reasons
- I don't really believe in the game and play only for the combat aspect

Do you play *League of Legends* to explore the map?

- Definitely
- Possibly
- Maybe
- Probably not
- Definitely not

Finding objects on the map (e.g. *Bard chimes*, *Skarner crystals*, *jungle plants*) is important for me.

- Strongly agree
- Agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Disagree
- Strongly disagree

Is *learning the lore* of the champions important to you?

- I love learning the lore
- The lore is interesting
- Lore is okay
- I don't really learn the lore
- Lore is boring and a waste of time

How often do you flame other players?

- I flame every game
- I flame quite regularly

- I flame sometimes
- I don't really flame
- I've never flamed anyone

Have you ever been flamed?

- Definitely
- I think so
- Maybe
- I don't think so
- Definitely not

Which of the following *most accurately describes how you feel* if somebody is flaming during your game?

- It's funny
- I encourage it
- I don't really mind
- I feel uncomfortable
- I want to leave the game

Do you often provoke other players by *spamming your champion mastery emote, or dancing when your opponent dies*?

- I spam my mastery emote all the time
- I will flash my mastery emote after a good play
- I retaliate if the opposing player initiated the provocation
- I rarely flash mastery or dance if my opponent dies
- I never provoke other players

Do you play *League of Legends* to forget or avoid real world problems?

- All the time
- Often
- Sometimes
- I did once
- Never

Which of the following is the most likely motivator for you to play *League of Legends*?

- Forget problems
- Procrastinate
- Release anger or frustration
- Enjoyment, improve mood, or relax
- Progress through levels and improve

- Other [text response]

Have you played *League of Legends* to distract yourself from a negative event in your life?

- Yes
- Maybe
- Probably not
- No

If you have played the game to distract yourself from a negative event, *which of the statements below can you identify with?*

- I felt like I had control over the situation
- I was able to cope with the situation
- I didn't have to think about the negative event
- I could talk with my friends on the game
- I felt respected by other players
- I felt better afterward
- I felt worse afterward
- None

My favourite champion is:

- Aatrox
- Ahri
- Akali
- Alistar
- Amumu
- Anivia
- Annie
- Ashe
- Aurelion Sol
- Azir
- Bard
- Blitzcrank
- Brand
- Braum
- Caitlyn
- Camille
- Cassiopeia
- Cho'Gath
- Corki
- Darius
- Diana

- Dr. Mundo
- Draven
- Ekko
- Elise
- Evelyn
- Ezreal
- Fiddlesticks
- Fiora
- Fizz
- Galio
- Gangplank
- Garen
- Gnar
- Gragas
- Graves
- Hecarim
- Heimerdinger
- Illaoi
- Irelia
- Ivern
- Janna
- Jarvan IV
- Jax
- Jayce
- Jhin
- Jinx
- Kalista
- Karma
- Karthus
- Kassadin
- Katarina
- Kayle
- Kennen
- Kha'Zix
- Kindred
- Kled
- Kog'Maw
- LeBlanc
- Lee Sin
- Leona
- Lissandra
- Lucian
- Lulu
- Lux

- Malphite
- Malzahar
- Maokai
- Master Yi
- Miss Fortune
- Mordekaiser
- Morgana
- Nami
- Nasus
- Nautilus
- Nidalee
- Nocturne
- Nunu
- Olaf
- Orianna
- Pantheon
- Poppy
- Quinn
- Rammus
- Rek'Sai
- Renekton
- Rengar
- Riven
- Rumble
- Ryze
- Sejuani
- Shaco
- Shen
- Shyvana
- Singed
- Sion
- Sivor
- Skarner
- Sona
- Soraka
- Swain
- Syndra
- Tahm Kench
- Taliyah
- Talon
- Taric
- Teemo
- Thresh
- Tristana

- Trundle
- Tryndamere
- Twisted Fate
- Twitch
- Udyr
- Urgot
- Varus
- Vayne
- Veigar
- Vel'Koz
- Vi
- Viktor
- Vladimir
- Volibear
- Warwick
- Wukong
- Xerath
- Xin Zhao
- Yasuo
- Yorick
- Zac
- Zed
- Ziggs
- Zilean
- Zyra

This is my favourite champion because... [*select options that apply*]

- I like their personality and image
- I think they reflect who I am
- I enjoy their abilities and gameplay
- I like their appearance
- Other [text response]

Because you are a male, do you think you are more likely to play a male champion?

- I play only male champions
- I am more likely to play male champions
- Gender has no impact on my selection of a champion
- I am less likely to play a male champion
- I am more likely to select a female champion

Because you are a female, do you think you are more likely to play a female champion?

- I play only female champions

- I am more likely to play female champions
- Gender has no impact on my selection of a champion
- I am less likely to select a female champion
- I am more likely to select a male champion

What gender of champion are you most likely to select?

- Male
- Female
- Gender has no impact on my selection of a champion

Which statement is most correct?

- I select my champion based on appearance
- I select my champion based on abilities
- I select my champion based on gender